

JVC

SERVICE MANUAL

PORTABLE COMPONENT SYSTEM

MODEL PC-70 L/LB/LD/LS

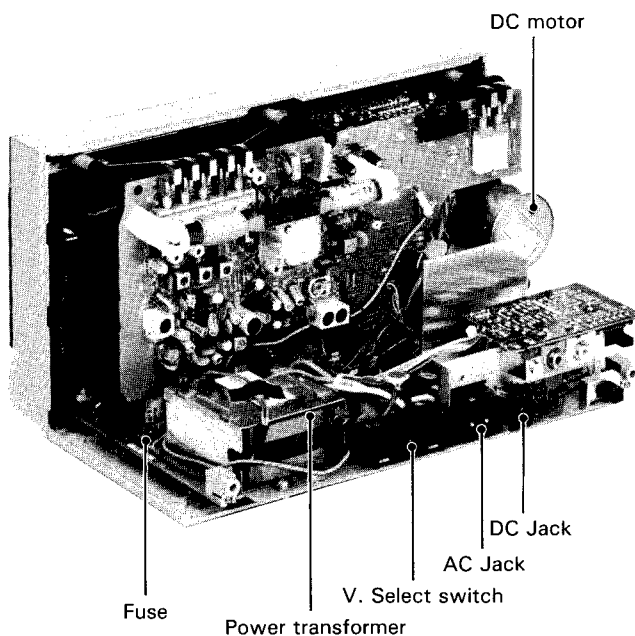


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Safety Precautions

1. The design of this product contains special hardware. Many circuits and components specially for safety purposes.
For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by (Δ) on the schematics and parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and/or the like to be separated from live parts, high temperature part, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.
When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after re-assembling.



5. Leakage current check

(Safety for electrical shock hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

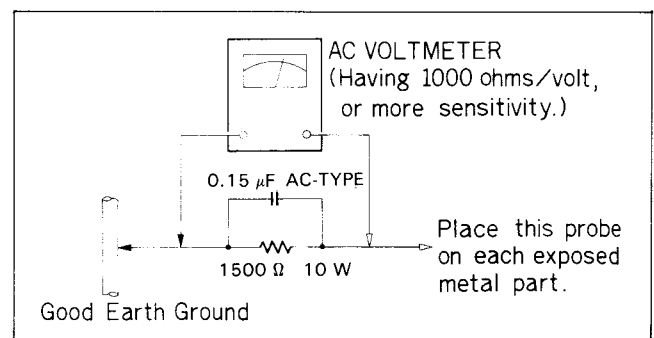
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5 mA AC (r.m.s.).

• Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s).

This corresponds to 0.5 mA AC (r.m.s).



Features

1. Fashionable mini stereo component system
 - Fashionable P-Compo system consisting of 3 units with attachable/detachable speakers.
2. Total output of 10 W (5 W + 5 W) max. (3.2 ohms)
 - Music power of 12 W (6 W + 6 W) (3.2 ohms)
 - "U-Turn" Auto-reverse deck for recording/playback with soft-touch mechanism
 - Metal tape compatibility
 - One-touch recording facility
 - Built-in microphone
 - single music scan facility for both directions. "Under license of Staar S.A, Brussels, Belgium".
- Timer start mechanism
- Two-position tape select switch (METAL/NORMAL)
- 5-LED peak indicators
- 5-elements S.E.A. Graphic equalizer
- PHONE/LINE IN jack provided for the connection of turntable or tape deck.
- 3-way power supply (AC, batteries, and car batteries)
3. Acoustic suspension speakers
 - 10-cm full range speaker × 2
 - Speaker connection cords with mini-plug

Specifications

Speakers	: 10 cm (4") (3.2 Ω) × 2	Input jacks	: Mic × 2 (0.78 (-62 dBV)) Matching impedance: 200 Ω—2 kΩ
Frequency ranges	: FM 88—108 MHz MW 540—1600 kHz LW 150—350 kHz SW 6—18 MHz	Output jacks	: 2, selectable between PHONO (0.8 mV/47 kΩ) and LINE IN (100 mV/47 kΩ)
Antennas	: Telescopic antenna for FM & SW Ferrite core antenna for MW & LW	Power supply	: Speaker × 2 (matching impedance 3.2—8 Ω) Headphones (matching impedance 8—32 Ω)
Track system	: 4-track 2-channel stereo	Power consumption	: DC 12 V (8 "R14" cells) Car battery through a car battery adapter AC 240/220/110 V, 50/60 Hz
Motors	: Electronic governor DC motor for capstan & reel	Dimensions	: 16 Watt 502(W) × 149(H) × 184(D) mm (19-7/8" × 5-7/8" × 7-1/4") including knobs
Heads	: METAPERM head (for recording/playback)/2-Gap Ferrite head (for erasure) combination head	Weight	: Approx. 4.4 kg (9.7 lbs) (without batteries) Approx. 4.9 kg (10.8 lbs) (with batteries)
Frequency response	: 60—14,000 Hz (with metal tape) 60—13,000 Hz (with normal tape)	Design and specifications are subject to change without notice for improvement.	
Wow & flutter	: 0.08% (WRMS) 0.18% (DIN 45500)		
S/N ratio	: 45 dB		
Rewind time	: Approx. 110 sec. (C-60 cassette)		
Fast forward time	: Approx. 110 sec. (C-60 cassette)		
Power output	: Max. 10 W (5 W + 5 W) Peak music power of 12 W (6 W + 6 W)		
S.E.A. characteristics	: S.E.A. center frequencies: 63 Hz/250 Hz/1 kHz/4 kHz/16 kHz S.E.A. control range: ± 12 dB		

Name of Controls and Connection Terminals

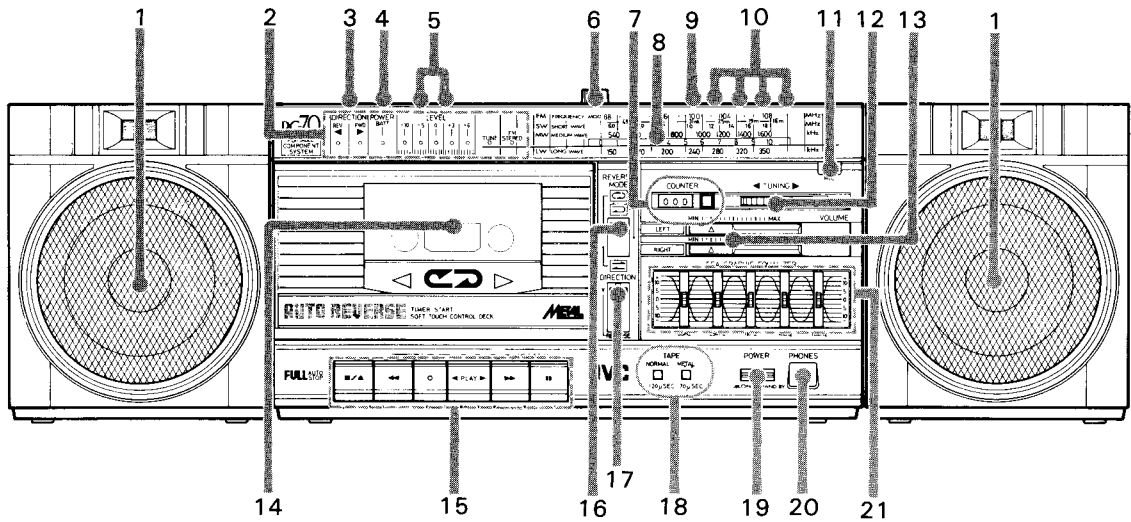


Fig. 1

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Speakers (Left, Right) 2. Indicators <ul style="list-style-type: none"> • DIRECTION • POWER/BATT • LEVEL • TUNE • FM STEREO 3. SOURCE switch <ul style="list-style-type: none"> () PHONO/LINE () RADIO 4. TAPE MONITOR switch 5. EXT MICROPHONE jacks 6. FINE TUNING knob for SW reception 7. Tape COUNTER/reset button 8. Dial scale 9. MODE switch <ul style="list-style-type: none"> () STEREO () MONO 10. BAND switches (FM/SW/MW/LW) 11. Built-in microphone (Monaural) | <ol style="list-style-type: none"> 12. TUNING knob 13. VOLUME controls 14. Cassette holder 15. Cassette operation buttons <ul style="list-style-type: none"> (Stop/Eject) button (Rewind) button (Record) button PLAY button (Fast Forward) button Pause button 16. REVERSE MODE switch <ul style="list-style-type: none"> : Continuous play : Full recording or playback : Single recording or playback 17. DIRECTION switch 18. TAPE switch 19. POWER switch 20. Headphones jack (PHONES) (3.5 mm dia. stereo miniplug) 21. SEA Graphic Equalizer controls |
|---|--|

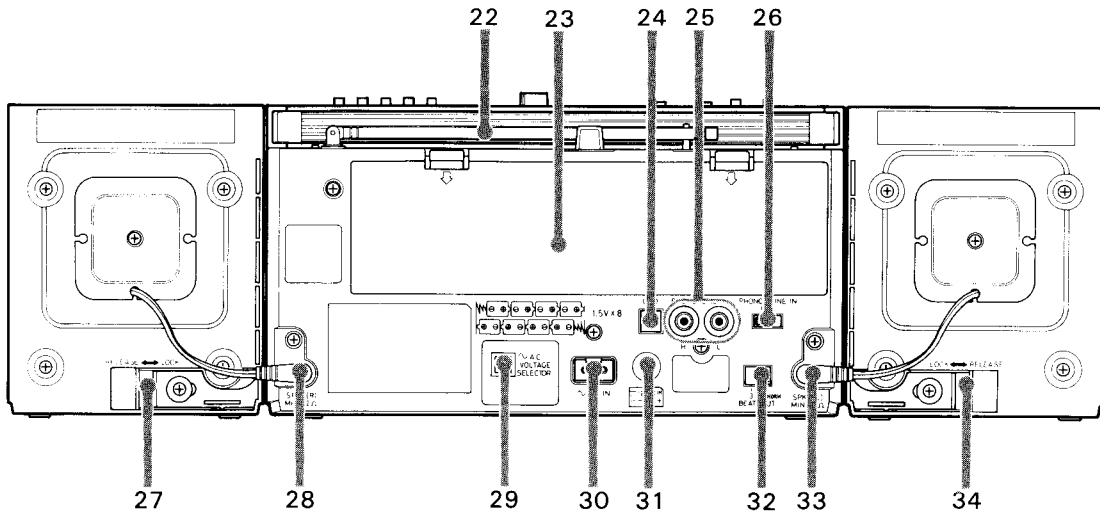


Fig. 2-1

- | | |
|---|---|
| <ul style="list-style-type: none"> 22. Telescopic antenna for FM or SW reception 23. Battery compartment cover 24. GND (ground) terminal 25. PHONO/LINE IN jacks 26. PHONO/LINE IN select switch 27. Speaker lock lever (Right) 28. Speaker cord with plug (Right) | <ul style="list-style-type: none"> 29. VOLTAGE SLECTOR (240/220/110 V) 30. AC IN jack 31. 12 V DC IN jack (⊖ → ⊕) 32. BEAT CUT switch 33. Speaker cord with plug (Left) 34. Speaker lock lever (Left) |
|---|---|

PC-70LD/LS only

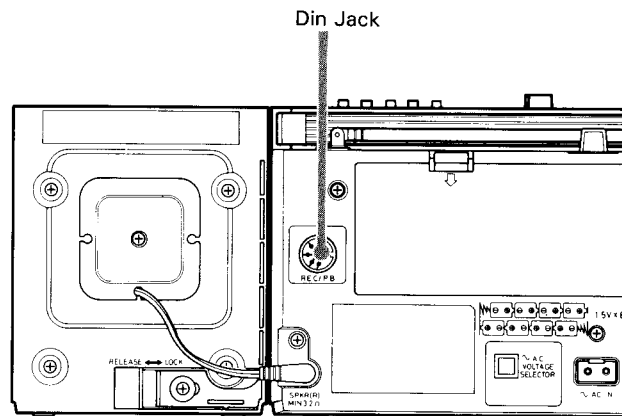


Fig. 2-2

Attaching and Detaching the Speaker

When using the speaker attached to the receiver

When using the speakers attached to the main unit.

1. Hold with the bottom of the speaker against the top of the main unit and press down the speaker to attach it.
Note: Be sure to set the speaker lock lever to RELEASE.

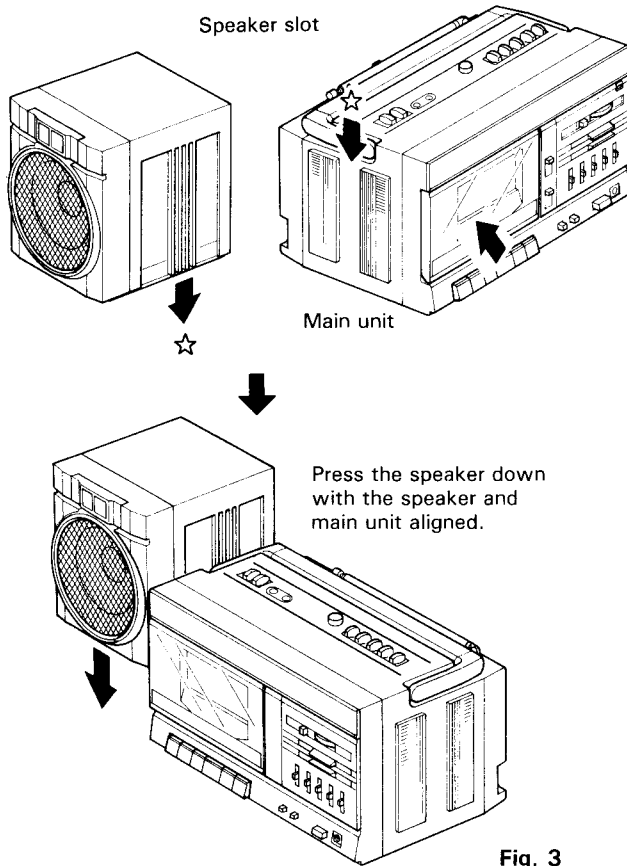


Fig. 3

2. Set the speaker lock lever to LOCK.
 - The right speaker is attached in the same way.

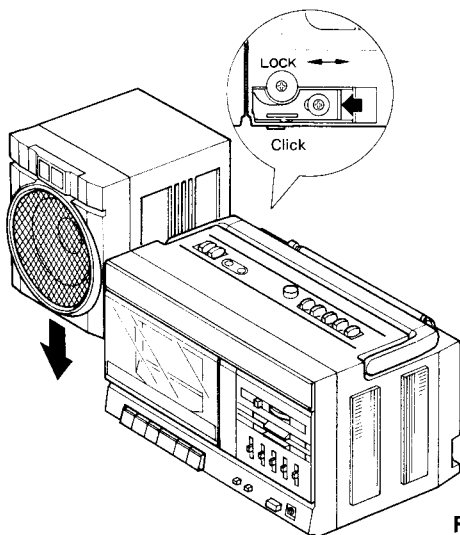


Fig. 4

When using the speakers detached from the main unit.

1. Set the speaker lock lever to RELEASE.
2. Lift the speaker to detach from the main unit.
 - A better stereo effect can be obtained when the speakers are placed an appropriate distance from the main unit.
 - The right speaker is detached in the same way.

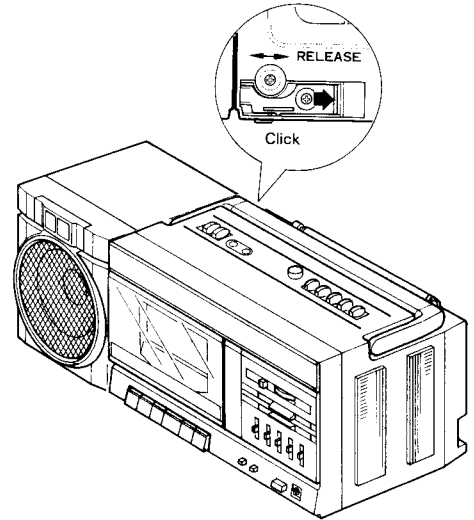


Fig. 5

Speaker cord connections

As illustrated, connect the speaker cord plug into the jack and fix it securely.

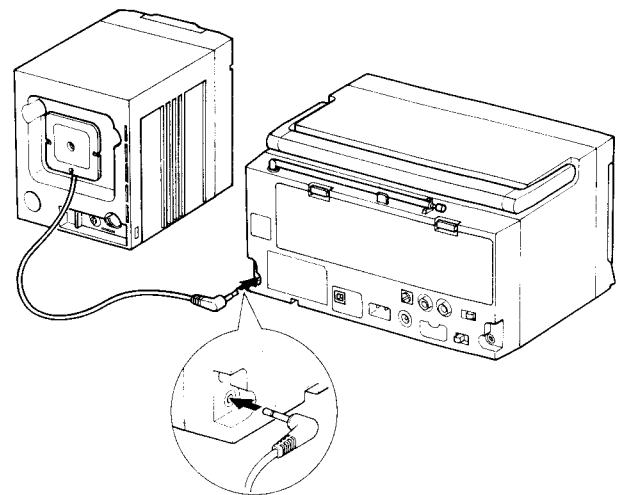


Fig. 6

Location of Main Parts

Front view

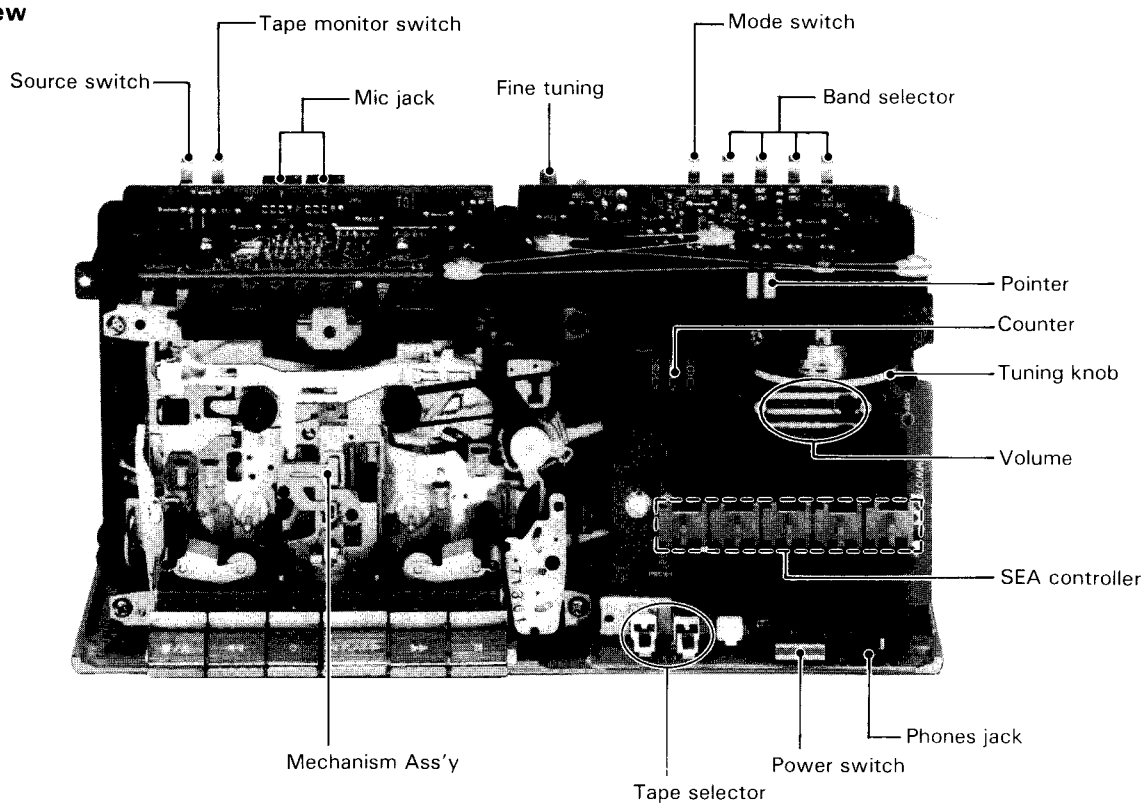


Fig. 7

Rear view

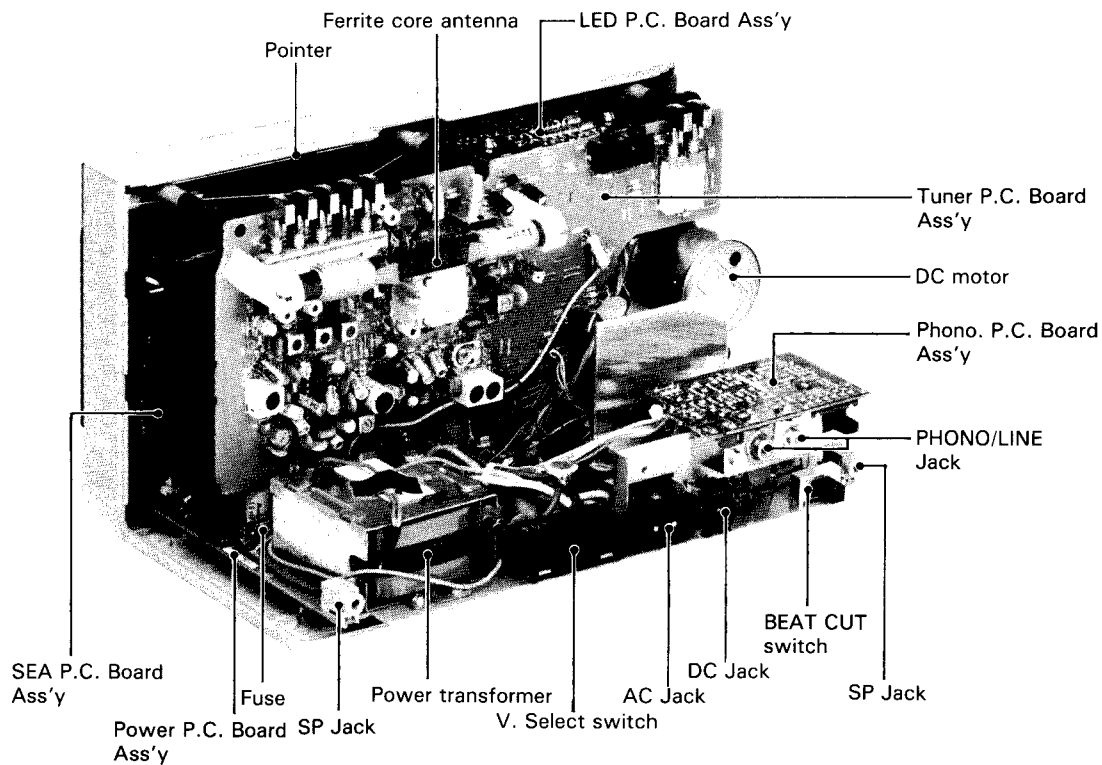


Fig. 8

Removal of Main Parts

Fuse replacement

1. Remove the rear panel to replace the fuse.

Rod antenna replacement

1. Remove the screw marked "ANT SCREW" and replace the rod antenna.

Removal of rear panel

1. Remove the eight screws ① ~ ③ from the bottom and rear panels.
2. Remove the antenna and battery wires.

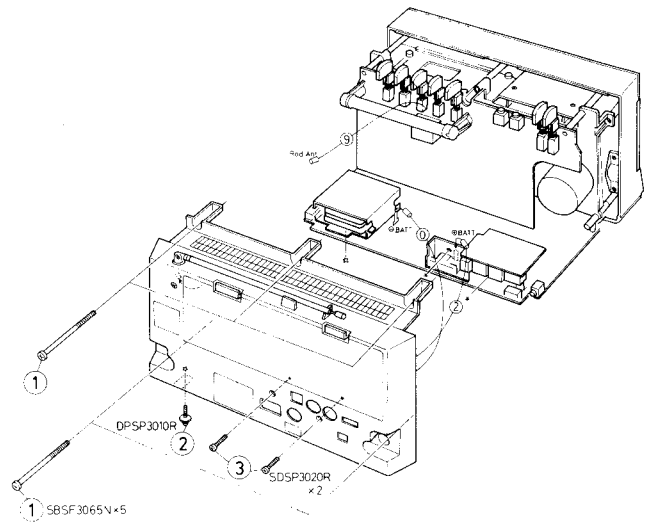


Fig. 9

Removal of bottom panel

1. Remove the six screws ④ ~ ⑥.
(Remove the rear panel or loosen the screws ① ~ ③ before this.)

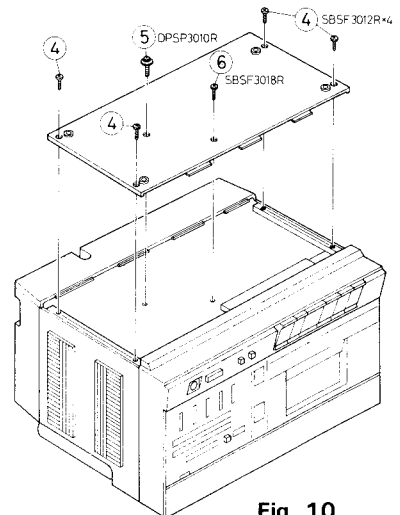


Fig. 10

Removal of top panel

1. Remove the bottom panel.
2. Pull the fine tuning knob to remove it.

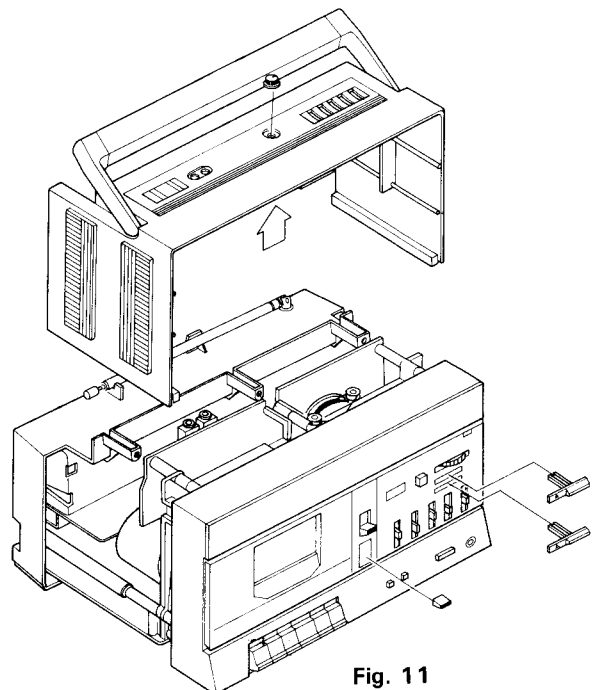




Fig. 11

Removal of front panel

1. Remove the two screws (7) and (8).
2. Remove the lever cap and volume control and then open the cassette holder to remove it.

Note: When reassembling, set the reverse mode switch to  or .

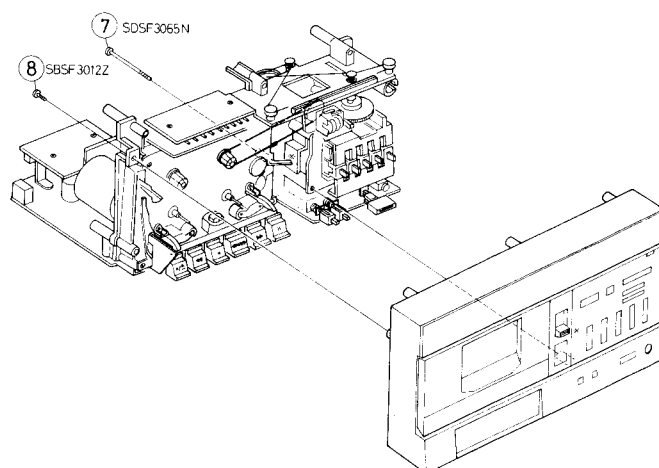


Fig. 12

Removal of tuner board

1. Remove the two screws (9) and (10).
2. Remove the connector wires 4P and 6P, then remove the connectors from CN101 of the amplifier board.

Note: When reassembling the unit, turn the dial drums and variable capacitors fully clockwise.

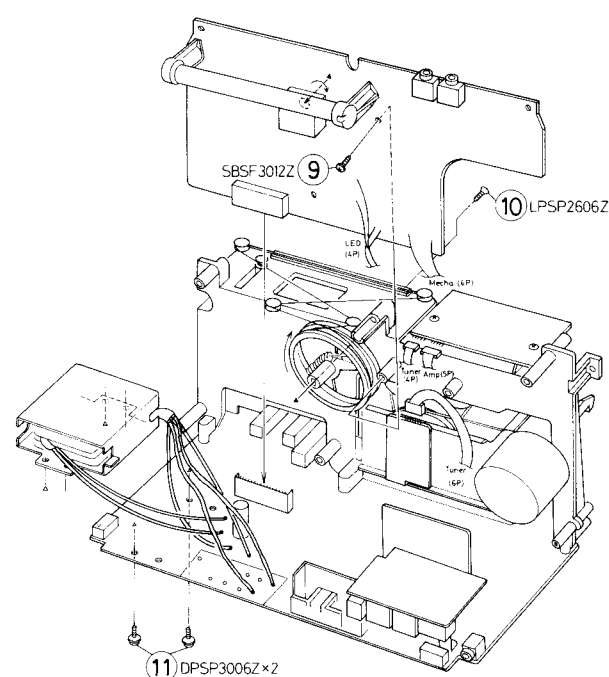


Fig. 13

Removal of power transformer

1. Remove the screw (11).
2. Remove the solder from the wires.

Removal of mechanism Ass'y

1. Remove the counter belt.
2. Remove the four screws (12).

Removal of phono board

1. Remove the two screws (13).
2. Remove the connector wires from the amplifier board.

Removal of LED board

1. Remove two screws (14).

Removal of counter

1. Pull in the direction of the arrow.

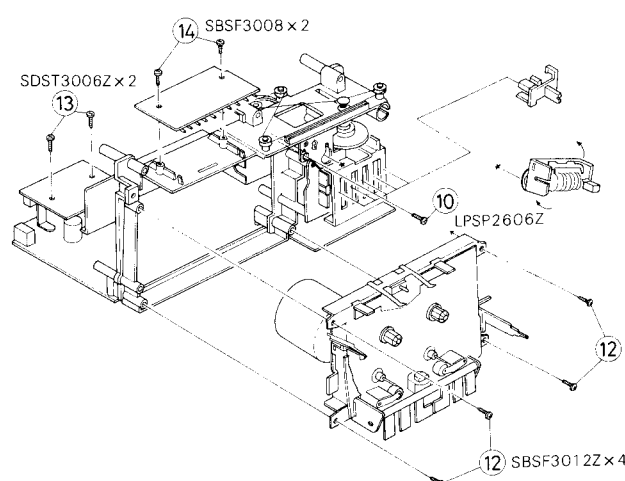


Fig. 14

Removal of chassis base

1. Remove the two screws (15) .

Removal of SEA board

1. Remove the two screws (16) and (17) .
2. Remove the connector from CN104 of the amplifier board.

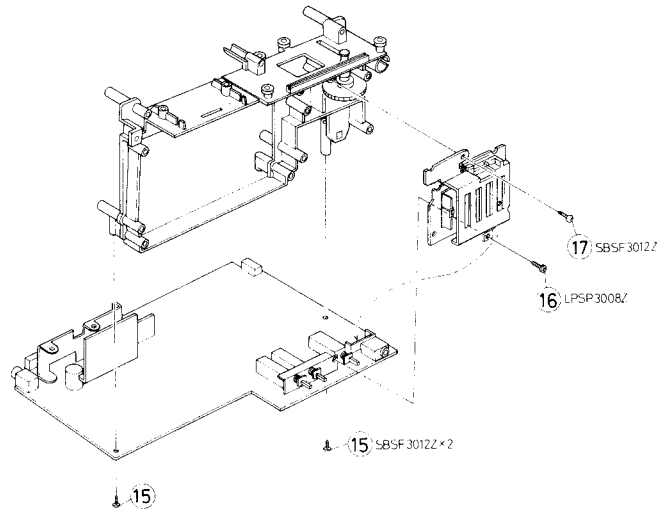


Fig. 15

Mechanism Parts

1. Flywheel and belt

- 1) Remove two screws (B) fastening the F.R. bracket, and remove the main belt.
- 2) Pull out the flywheel with the reel drive belt.

2. Reel assembly unit

Remove 4 screws (A) fastening the reel ass'y unit.

3. Motor

- 1) Remove two screws fastening the motor from the F.R. bracket.
- 2) Pull out the motor pulley from the motor shaft.

4. Reel feather

Pull out the reel feather from the shaft.

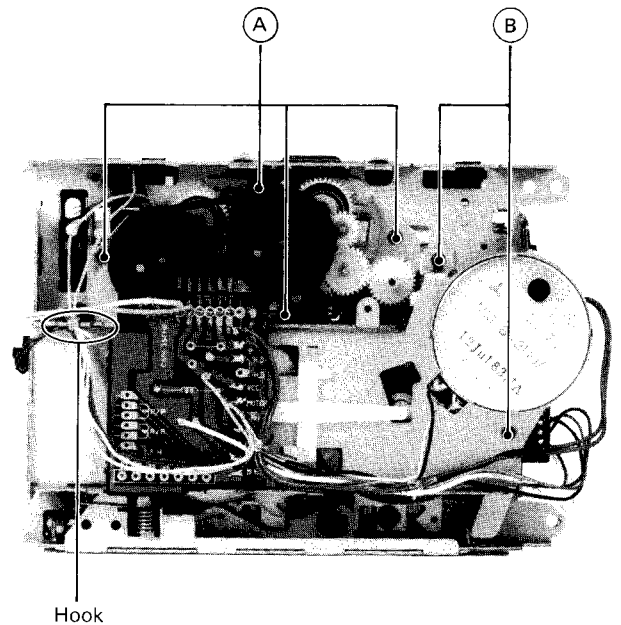


Fig. 16

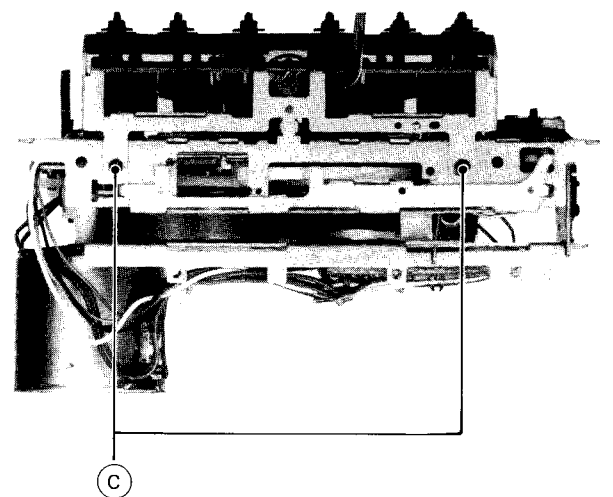


Fig. 17

5. Rec/PB head and Erase head

- 1) Remove two screws (C) fastening the button frame ass'y.
- 2) Remove two screws (D) fastening the head ass'y with the head block.

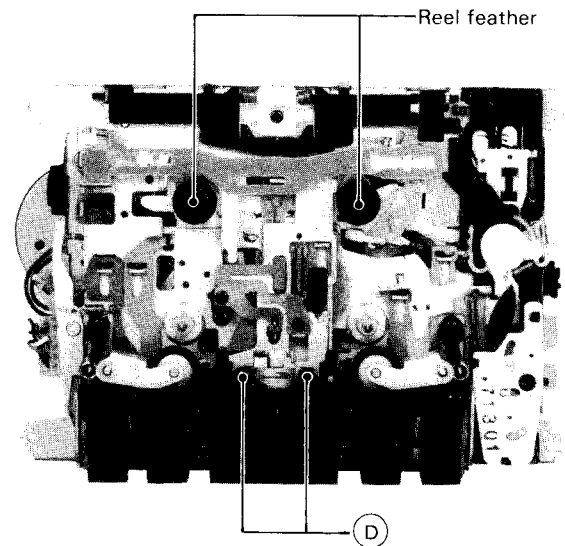


Fig. 18

Operating principle of Mechanical-logic Auto-reverse Mechanism is the same as those of the service manual for KD-V33 A/B/C/E/E(D)/J/U (No. 4222B).

Please refer to the service manual of KD-V33 A/B/C/E/E(D)/J/U (No. 4222B).

How to Engage Dial Cord

1. Turn the dial drum fully clockwise (to the highest frequency).
2. Use Kevlar cord (695 mm long and 0.4 mm in diameter).
3. Install the string in the sequence of the numbers.

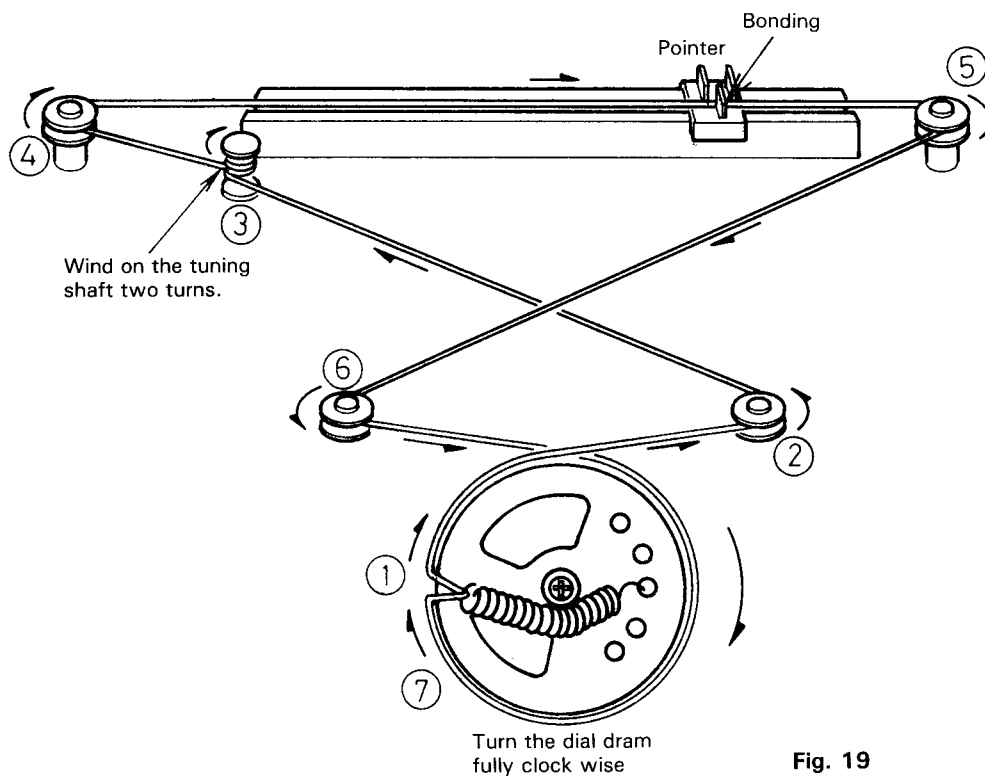


Fig. 19

Main Adjustments

[I] Equipment and Measuring Instruments used for Adjustment

1. Electrical adjustment

- | | |
|---|--|
| 1) Electronic voltmeter | VTT664 (for reference level 1 kHz) |
| 2) Audio frequency oscillator
(range: 50—20 kHz and output 0 dB with impedance 600 Ω) | VTT739 (for playback frequency response)
VTT6447 (for music scanning)
VTT6448 (for music scanning) |
| 3) Attenuator | 6) Resistors |
| 4) Standard tapes for REC/PB
Maxell UD — Normal tape (TS-5)
TDK SA — Chrome tape (TS-6)
JVC ME — Metal tape (TS-7) } or equivalent | 600 Ω (for attenuator matching) |
| 5) Reference tapes for playback (JVC Test Tape)
VTT702 (for head azimuth adj.)
VTT712 (for motor speed, wow flutter adj.) | |

2. Mechanical adjustment

- 1) Torque testing cassette gauge.

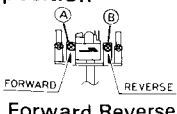
3. Tuner section adjustment

- SSG (standard signal generator).
Sweep signal generator.

[II] Mechanical Adjustment

1. Adjustment Procedure of Cassette Mechanism

(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting motor speed	Connect a speed meter (an electronic counter) to the Speaker out terminals. Play back the VTT712 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the DC	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking wow and flutter	Connect a wow and flutter meter to Speaker out terminals. Play back the VTT712 test tape. Check to see if the reading of the meter is within 0.08% (WRMS).		0.08% (WRMS) 0.18% (DIN 45500)	If the reading becomes moving value even if conforming to the standard, a reclaim may be raised. Repairs are necessary.
Checking playback torque	Employ a torque testing cassette tape CTG-N for the checking, or remove the cassette cover and use a torque gauge.		40—70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Adjusting record/playback head position 	1) Use TMT702 or equivalent and set the output to maximum. 2) Adjust (A) or (B) to obtain the maximum value in both forward and reverse modes. Confirm the adjustment by recording and reproducing a 14 kHz signal and checking the normal level.	Head mount azimuth screws (A) and (B)	Maximum	

[III] Cassette Amplifier Adjustment

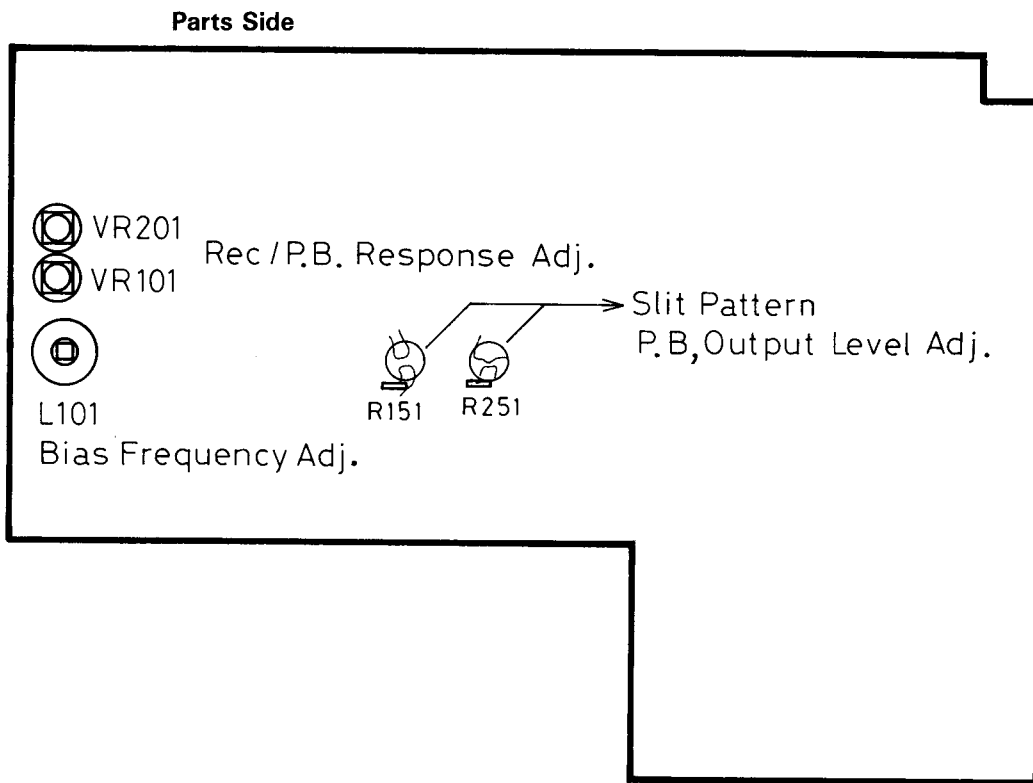



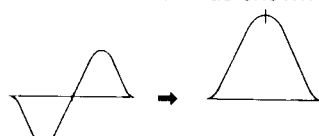
Fig. 20

Cassette recorder section

Item	Tape to be used	Adjustment and check	Adjustment point
Playback output level	VTT664 (1 kHz)	Play the VTT664 and, when the L and R level difference is more than 2 dB, perform this adjustment. For the channel with lower level, shortcircuit the slit pattern with R151 or R251.	R151 or R251
Playback frequency response	VTT739	When playing VTT739 and assuming 1 kHz level at 0 dBs, 125 Hz shall be +1 dB \pm 3 dB, and 8 kHz shall be +1 dB \pm 3 dB.	
Bias frequency adjustment		Connect a frequency counter to TP101 (on the H side of R101) and adjust L101 to obtain 68 kHz.	L101
Recording and playback frequency response		Apply signals -20 dB under the reference input, and record and reproduce 1 kHz, 100 Hz and 8 kHz. Then adjust VR101 and VR201 so that 100 Hz is 0 dB \pm 3 dB, and 8 kHz is +1 dB \pm 3 dB. In this adjustment, the L and R difference when recording/playing 1 kHz signal shall be within 3 dB.	VR101 and VR201
Recording and playback distortion		Record and reproduce 1 kHz reference level signal and measure the distortion. The values shall be within 3%.	

[IV] Tuner Alignment

BASIC CONDITIONS

POWER SOURCE OF THE RECEIVER	DC 12 V AC240/220/110 V, 50/60 Hz:
LOAD RESISTANCE OF THE RECEIVER	50 mW (0.4 V)/3.2 Ω
MODULATION OF SSG	400 Hz. 30%
Item	Description
<p>1. AM IF ALIGNMENT</p> <p>1-1 Conditions of the receiver.</p> <p>(1) Power source:</p> <p>(2) Function switch position:</p> <p>(3) Band select switch:</p> <p>(4) Volume control:</p> <p>(5) SEA control:</p> <p>(6) Variable capacitor:</p> <p>1-2 Connection of Sweeper and the receiver</p> <p>(1) Tuner input:</p> <p>(2) Tuner output:</p> <p>1-3 Aligning position:</p> <p>1-4 Alignment (Waveform):</p> 	<p>DC 7.7 V (only Tuner P.C. Board) (When the power is supplied directly to the tuner in the receiver, the voltage should be adjusted to the proper level which shall be required by the tuner.)</p> <p>RADIO MW Minimum gain position Center position Near the minimum capacity position where no signal come in.</p> <p>Positive side to TP4 Positive side to TP2 Negative side to TP3] T3, T4</p> <p>Adjust AM I.F.T. (above mentioned aligning position) so that maximum and symmetrical wave form can be obtained. In this case, the wavehead should be appeared at the center marker (450 kHz) on the scope of Sweeper.</p>
<p>2. FM IF ALIGNMENT</p> <p>2-1 Conditions of the receiver</p> <p>(1) Power source:</p> <p>(2) Function switch position:</p> <p>(3) Band select switch:</p> <p>(4) Volume control:</p> <p>(5) SEA control:</p> <p>(6) Variable capacitor:</p> <p>2-2 Connection of Sweeper and the receiver</p> <p>(1) Tuner input:</p> <p>(2) Tuner output:</p> <p>NOTE</p> <p>a) Attach a capacitor (30 pF) and resistor (30 kΩ) in series to the positive side cable which shall be led from Sweeper input.</p> <p>b) Attach a capacitor (30 pF) and a resistor (100 kΩ) in series to the positive side cable which shall be led from Sweeper output.</p> <p>2-3 Aligning position:</p> <p>2-4 Alignment (Waveform):</p> <p>b) Discriminate Waveform:</p>	<p>Same as mentioned in item 1-1</p> <p>RADIO FM Minimum gain position Center position Near the minimum capacity position where no signal come in.</p> <p>Positive side to TP1 (C5 or R5) Positive side to TP2 Negative side to TP3</p> <p>a) IF Waveform: T1 b) Discriminate Waveform: T2 ("S" curve waveform)</p> <p>Adjust the discriminate coil (T2) so that "S" curve waveform may be changed to IF waveform as shown in following figure.</p>  <p>After above, adjust T1 so that max. sensitivity and symmetrical IF waveform can be obtained on the scope of Sweeper.</p> <p>Adjust the discriminate T2 again so that above symmetrical IF waveform may be changed to balanced "S" curve waveform.</p>

Item	Description
3. AM RF ALIGNMENT 3-1 Conditions of the receiver. (1) Power source: (2) Function switch position: (3) Volume control: (4) SEA control: (5) Variable capacitor: 3-2 Conditions of SSG. (1) Modulation: (2) Frequency: (3) Output level of the attenuator in SSG: 3-3 Power output measuring position: 3-4 Alignment:	Same as mentioned in item 1-1. RADIO 50 mW Center position Refer the following list shown in item 3-4. Refer the basic condition Refer the following list shown in item 3-4. Approx. 50 mW Speaker terminals

	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
1	LW	Loop Antenna	145 kHz	Max. capacity	L6
2			360 kHz	Min. capacity	TC-6
3			Adjust the above aligning position (L6 & TC-6) repeatedly so that the tuner can be received above frequency range (band width).		
4			160 kHz	to be received 160 kHz	L2
5			350 kHz	to be received 350 kHz	TC-2
6			Adjust the above aligning position (L2 & TC-2) repeatedly so that the tuner can be obtained the best sensitivity.		
7	MW	Loop Antenna	520 kHz	Max. capacity	L7
8			1,650 kHz	Min. capacity	TC-7
9			Adjust the above aligning position (L7 & TC-7) repeatedly so that the tuner can be received above frequency range (band width).		
10			620 kHz	to be received 620 kHz	L3
11			1,400 kHz	to be received 1,400 kHz	TC-3
12			Adjust the above aligning position (L3 & TC-3) repeatedly so that the tuner can be obtained the best sensitivity.		
13	SW	Dummy Antenna	5.8 MHz	Max. capacity	L8
14			18.6 MHz	Min. capacity	TC-8
15			Adjust the above aligning position (L8 & TC-8) repeatedly so that the tuner can be received above frequency range (band width).		
16			6 MHz	to be received 6 MHz	L4
17			18.0 MHz	to be received 18.0 MHz	TC-4
18			Adjust the above aligning position (L4 & TC-4) repeatedly so that the tuner can be obtained the best sensitivity.		

Note
 Positive side to TP5
 Negative side to TP8

Item		Description			
4. FM RF ALIGNMENT 4-1 Conditions of the receiver. (1) Power source: (2) Function switch position: (3) Band select switch: (4) Volume control: (5) SEA control: (6) Variable capacitor: 4-2 Condition of FM SSG. (1) Modulation: (2) Frequency: (3) Output level of the attenuator in FM SSG: 4-3 Alignment:		Same as mentioned in item 1-1. RADIO FM 50 mW Center position Refer the following list shown in item 4-3. Refer the basic condition Refer the following list shown in item 4-3. The level shall be decided by the load resistance of the receiver mentioned in the basic conditions.			
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of FM SSG	Variable Capacitor Position	Aligning Position
1	FM	Dummy Antenna	87.5 MHz	Max. capacity	L5
2			109.0 MHz	Min. capacity	TC-5
3			Adjust the above aligning position (L5 & TC-5) repeatedly so that the tuner can be received above frequency range (band width).		
4			90 MHz	to be received 90 MHz	L1
5			106 MHz	to be received 106 MHz	TC-1
6			Adjust the above aligning position (L1 & TC-1) repeatedly so that the tuner can be obtained the best sensitivity.		
		Positive side to TP5 Negative side to TP8			

FM MPX Alignment

A. 19 kHz Alignment (Regular Method)

1. Connect a frequency counter to the test point TP7 (earth = TP3).
2. Supply the monaural signal (98 MHz, 60 dB) across the antenna terminal.
3. Adjust the variable resistor VR1 so that the frequency becomes 19 kHz ± 100 Hz.

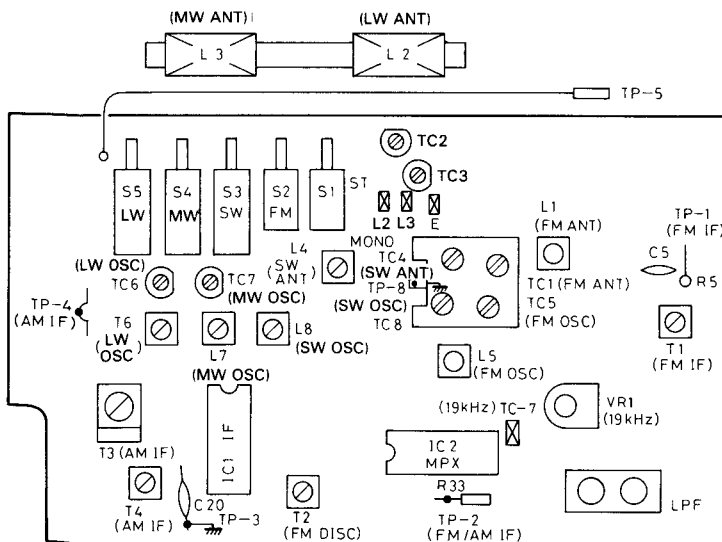
B. 19 kHz Alignment (Simplified Method)

1. Tune to an FM stereo broadcast.
2. Set the variable resistor VR1 to the minimum position of the range in where the Lch and Rch selecting.

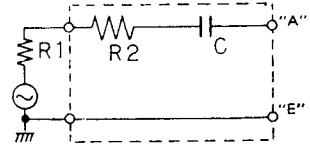
Note:

Attach a resistor (100 kΩ) to the positive side cable shall be led from counter input.

Parts Arrangement for Alignment



Dummy Antenna

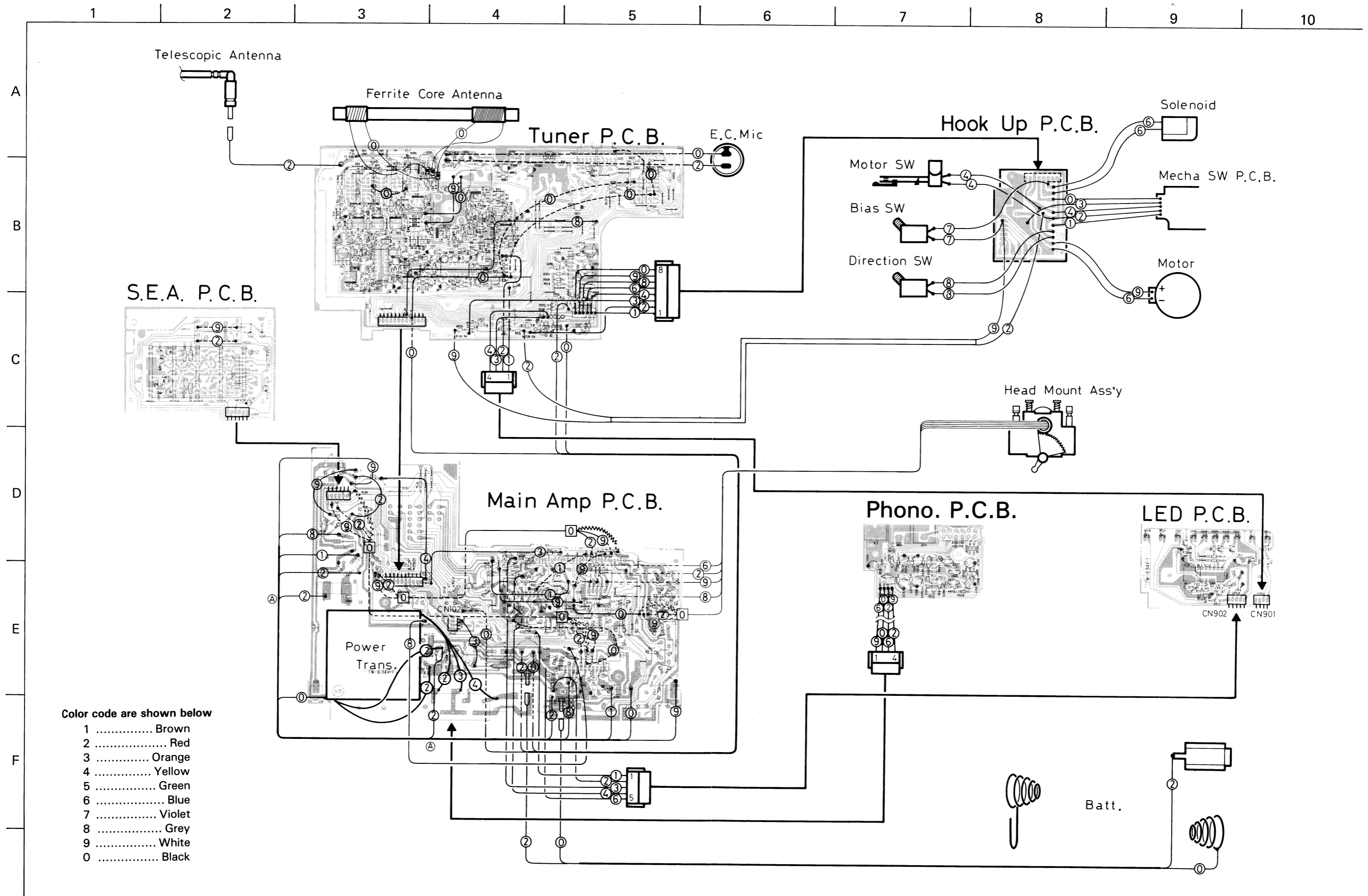


$R_1 + R_2 = 80 \Omega$ "A" → TP-5
 $C = 10 \text{ pF}$ "E" → TP-8
 R_1 : Output impedance of S.S.G.

Fig. 22

Fig. 21

Wiring Connections



Color code are shown below

- 1 Brown
- 2 Red
- 3 Orange
- 4 Yellow
- 5 Green
- 6 Blue
- 7 Violet
- 8 Grey
- 9 White
- 0 Black

Block Diagram

Tuner Section

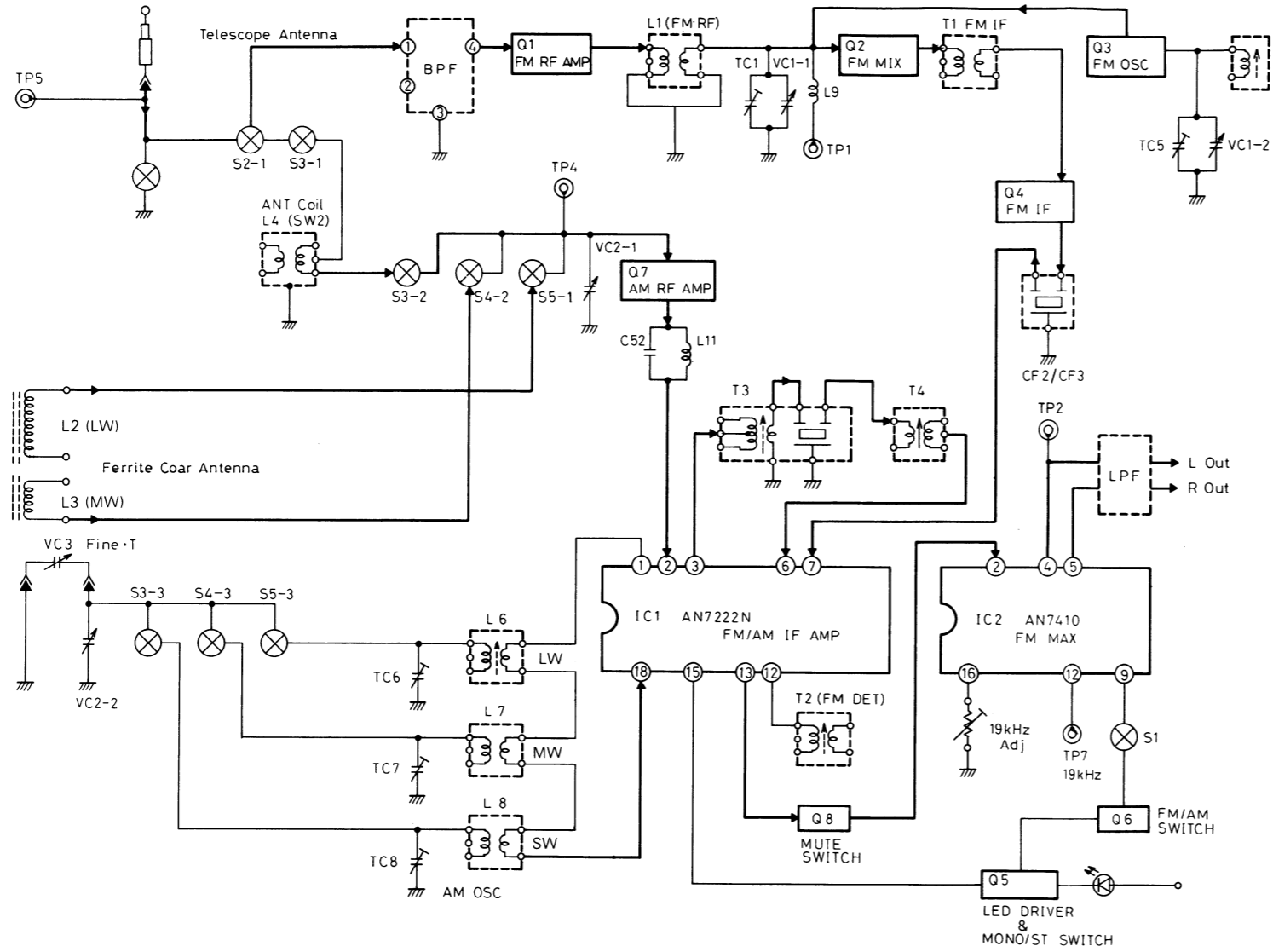


Fig. 24

P.B. System

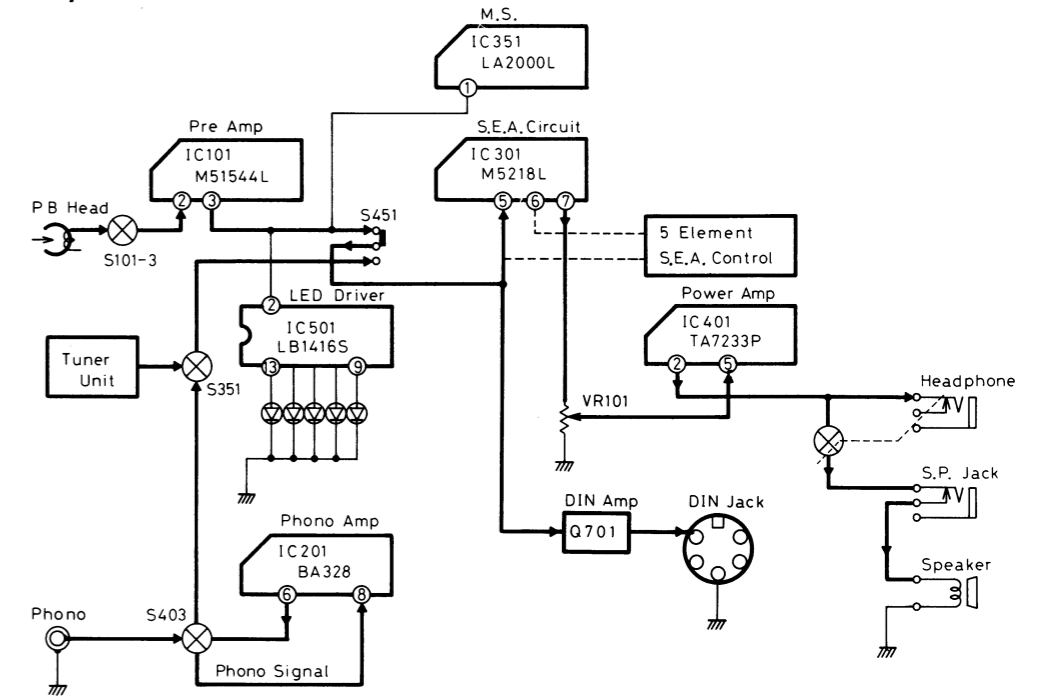


Fig. 25

Rec System

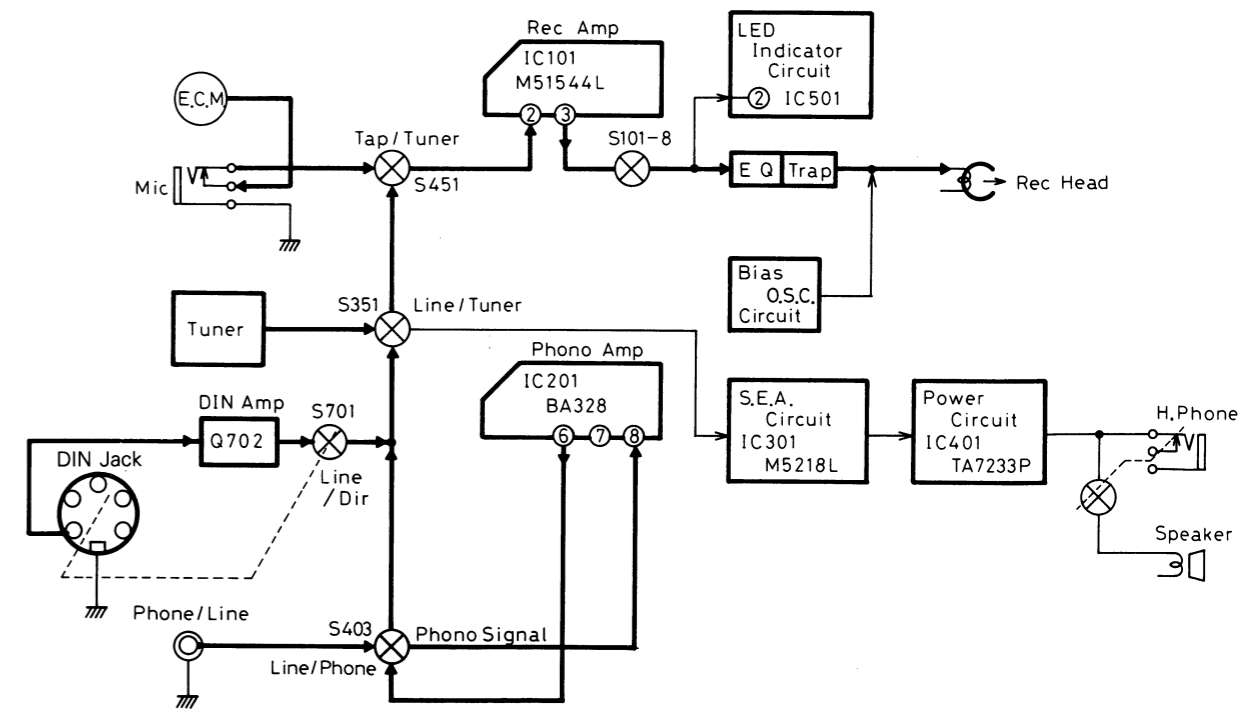
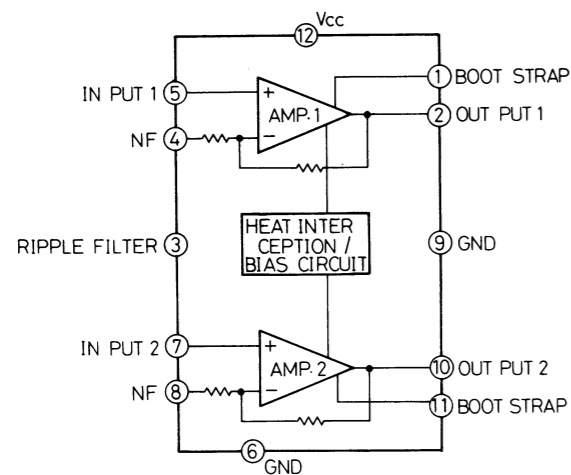


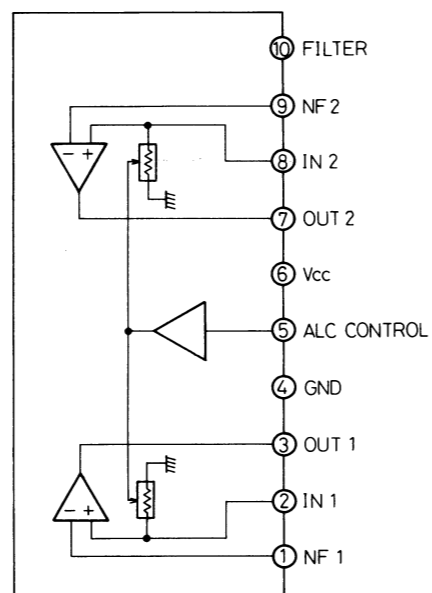
Fig. 26

Integrated Circuit

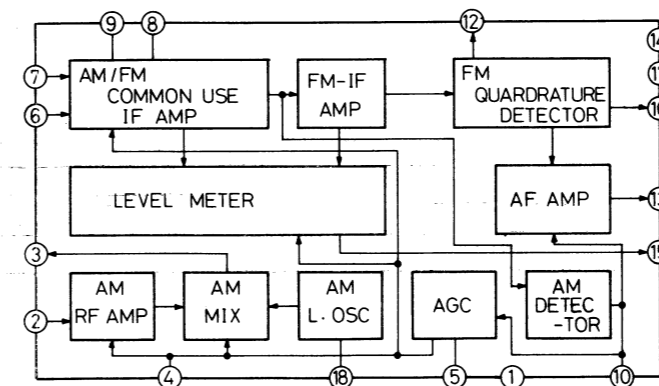
TA7233P



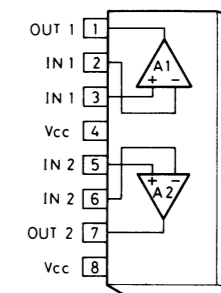
M51544L



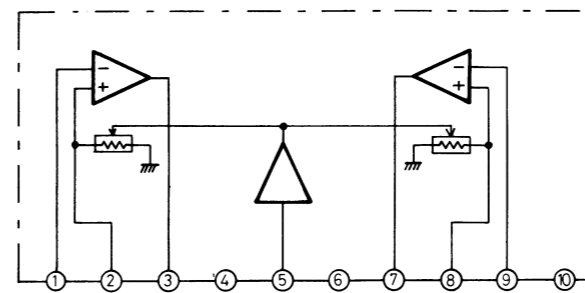
AN7222N



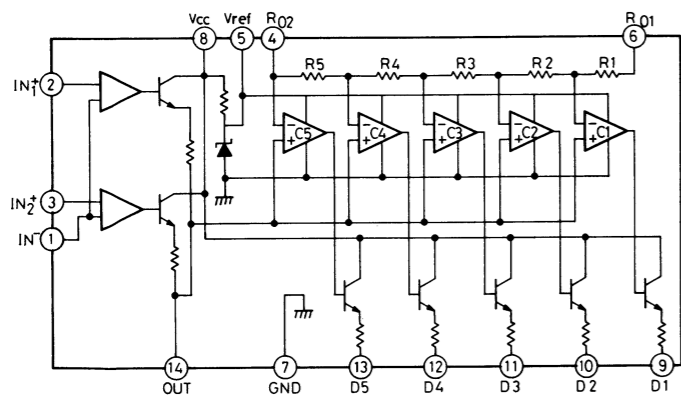
M5218L



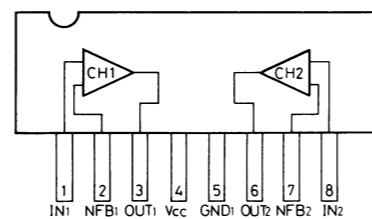
M51544L



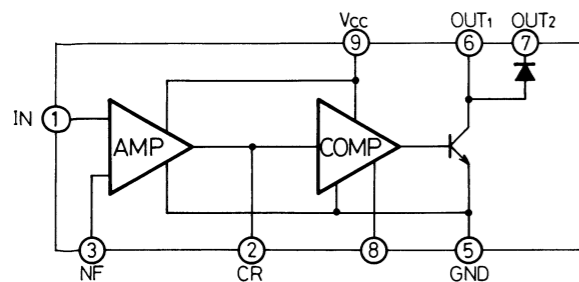
LB1416S



BA328



LA2000S



AN7410

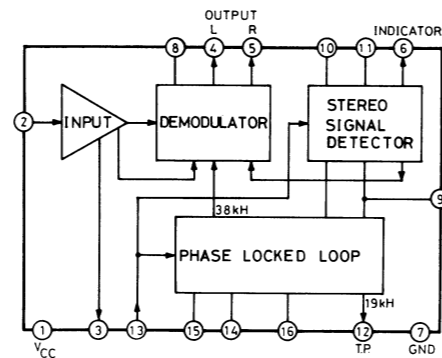


Fig. 27-1

Standard Schematic Diagram of PC-70L/LB (Tuner Circuit)

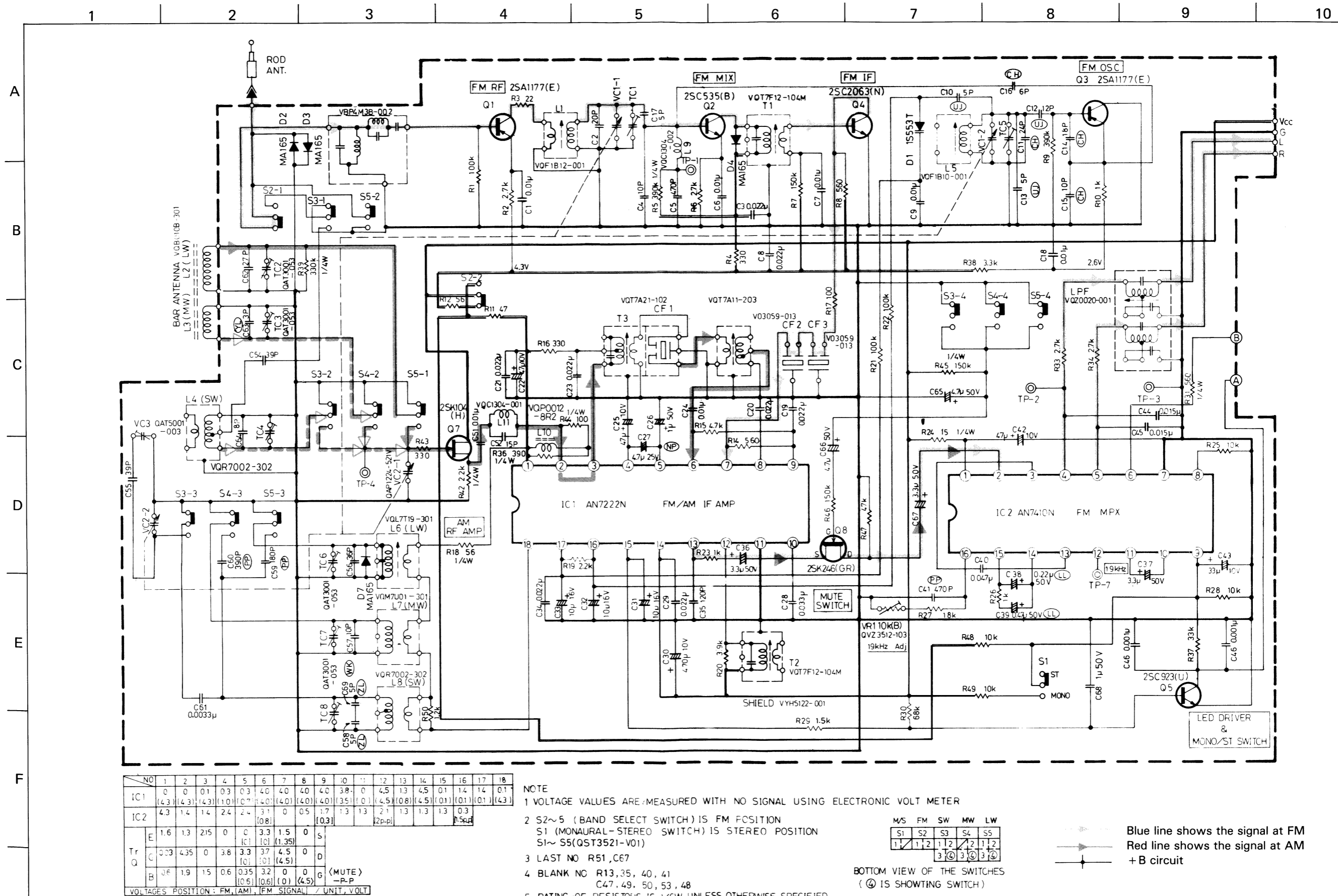
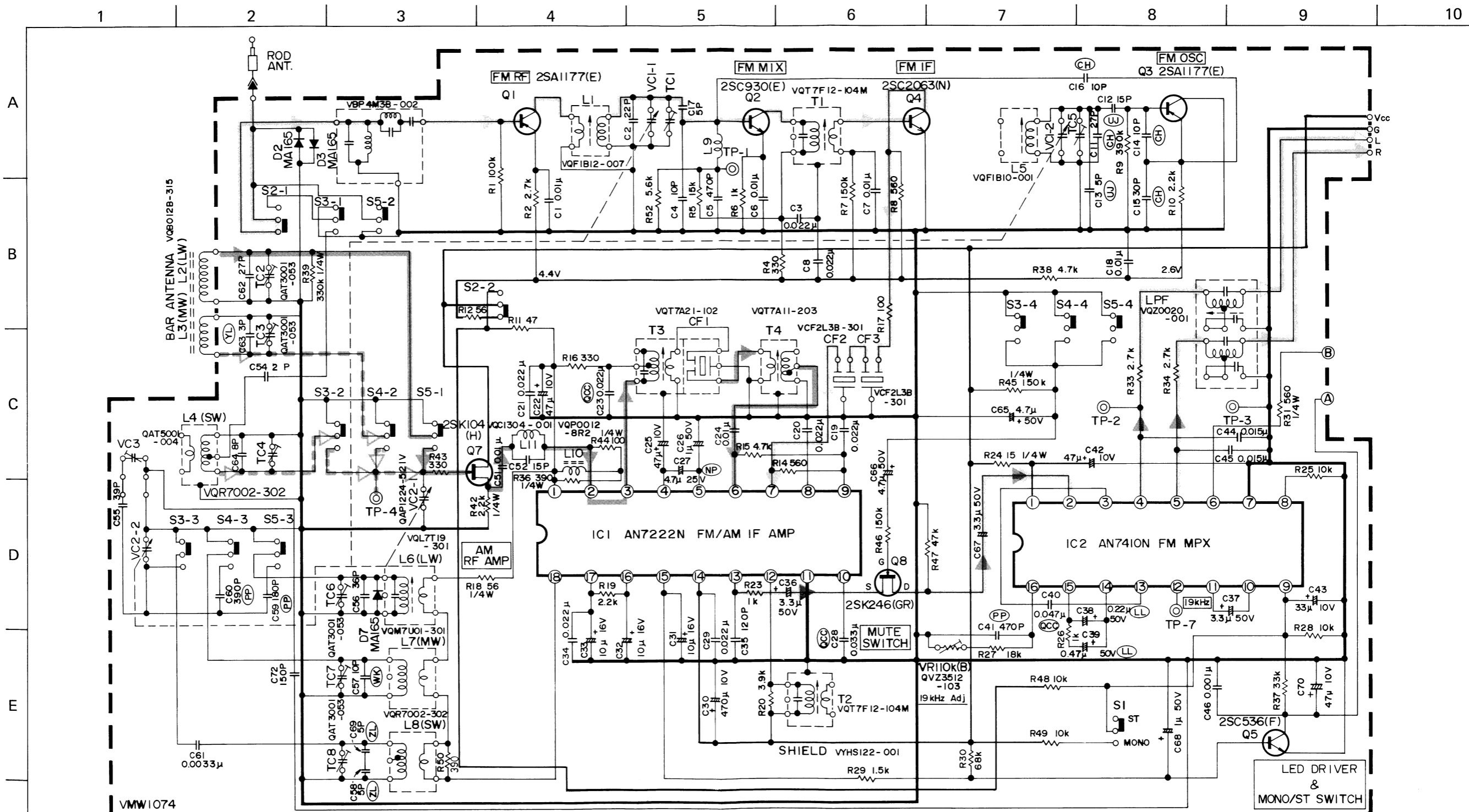


Fig. 28

Standard Schematic Diagram of PC-70LD (Tuner Circuit)

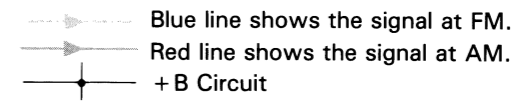


NOTE
 1 VOLTAGE VALUES ARE MEASURED WITH NO SIGNAL USING ELECTRONIC VOLT METER
 2 S2~5 (BAND SELECT SWITCH) IS FM POSITION
 S1 (MONAURAL - STEREO SWITCH) IS STEREO POSITION
 S1~S5 (QST3521 - VOI)
 3 LAST NO R52,C72
 4 BLANK NO R13, 35, 40, 41, 3, 17, 21, 22, 32
 C47, 49, 50, 53, 48, 9, 10, 71
 5 RATING OF RESISTORS IS 1/6W UNLESS OTHERWISE SPECIFIED

QST3521-VOI

M/S	FM	SW	MW	LW
S1	1	1	2	2
S2	1	2	1	2
S3	3	4	3	4
S4	3	4	3	4
S5	3	4	3	4

 BOTTOM VIEW OF THE SWITCHES
 (Ⓞ) IS SHOWING SWITCH



Standard Schematic Diagram of PC-70L/LB (Amplifier Circuit)

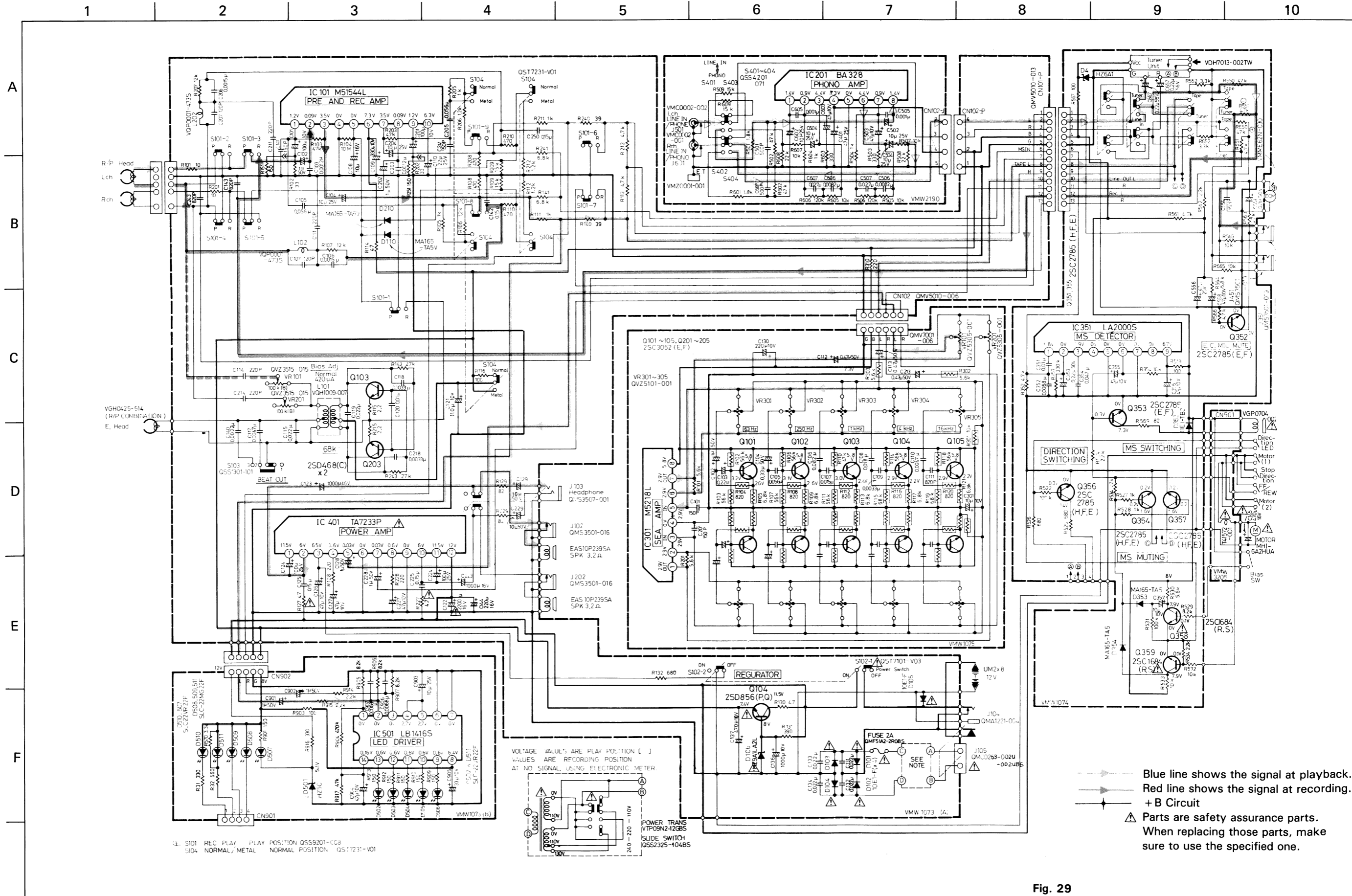


Fig. 29

Standard Schematic Diagram of PC-70LD/LS (Amplifier Circuit)

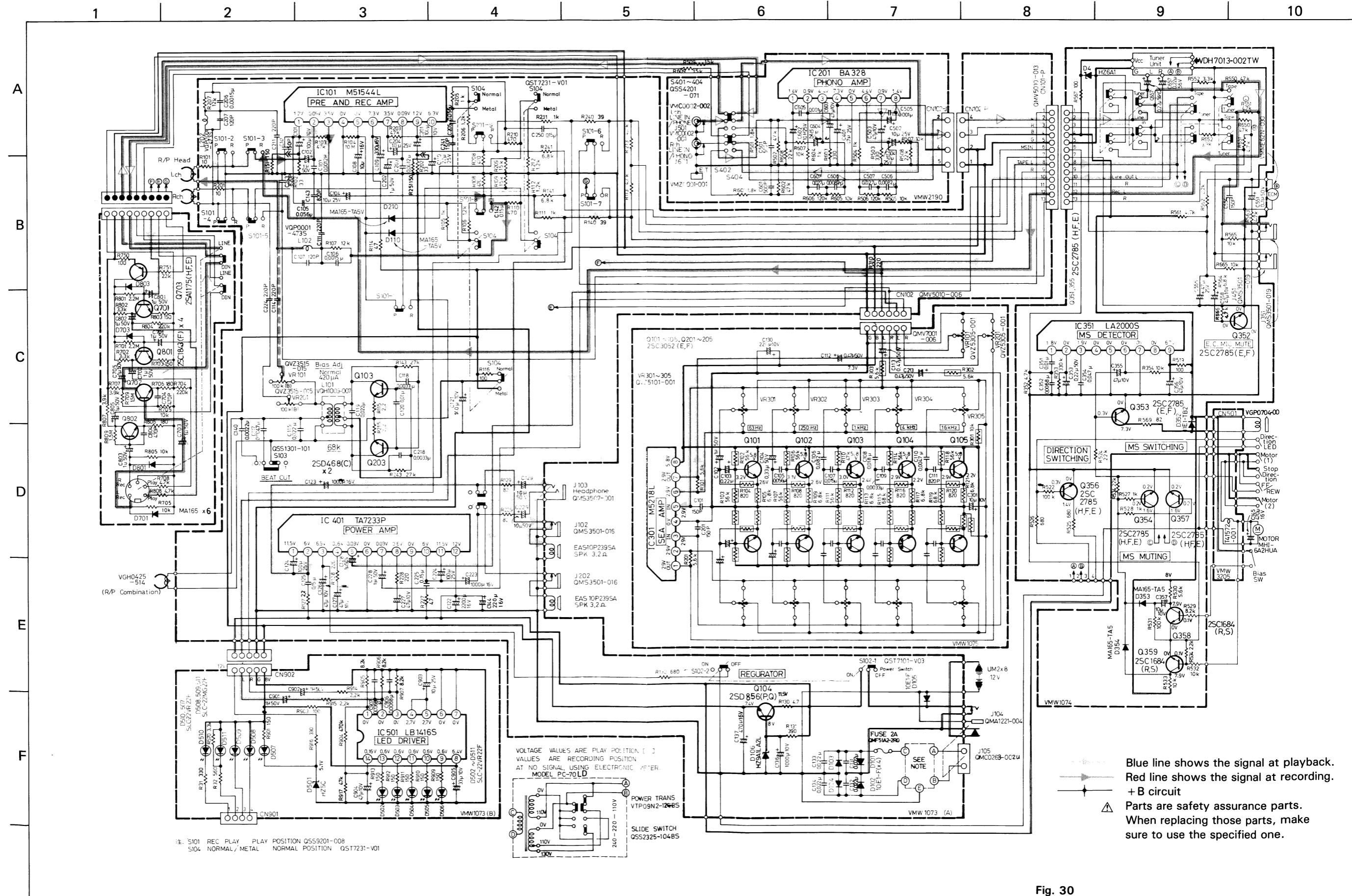


Fig. 30

P.C. Board Parts (SEA)

Pattern Side View

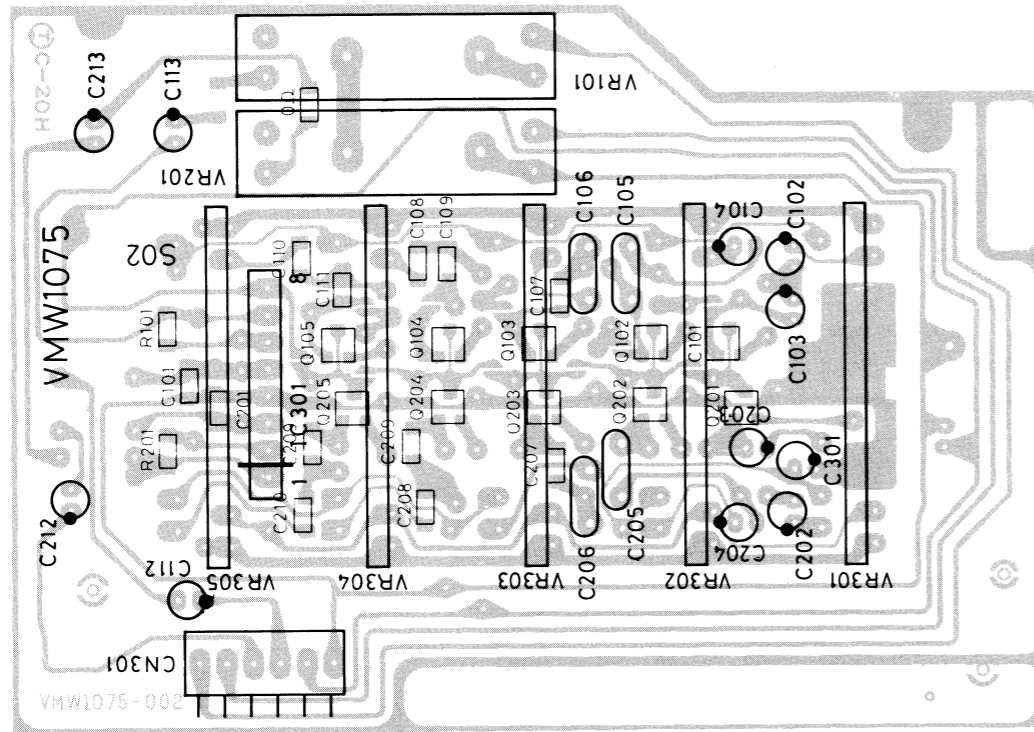


Fig. 31

Chip parts
Earth

Parts Side View

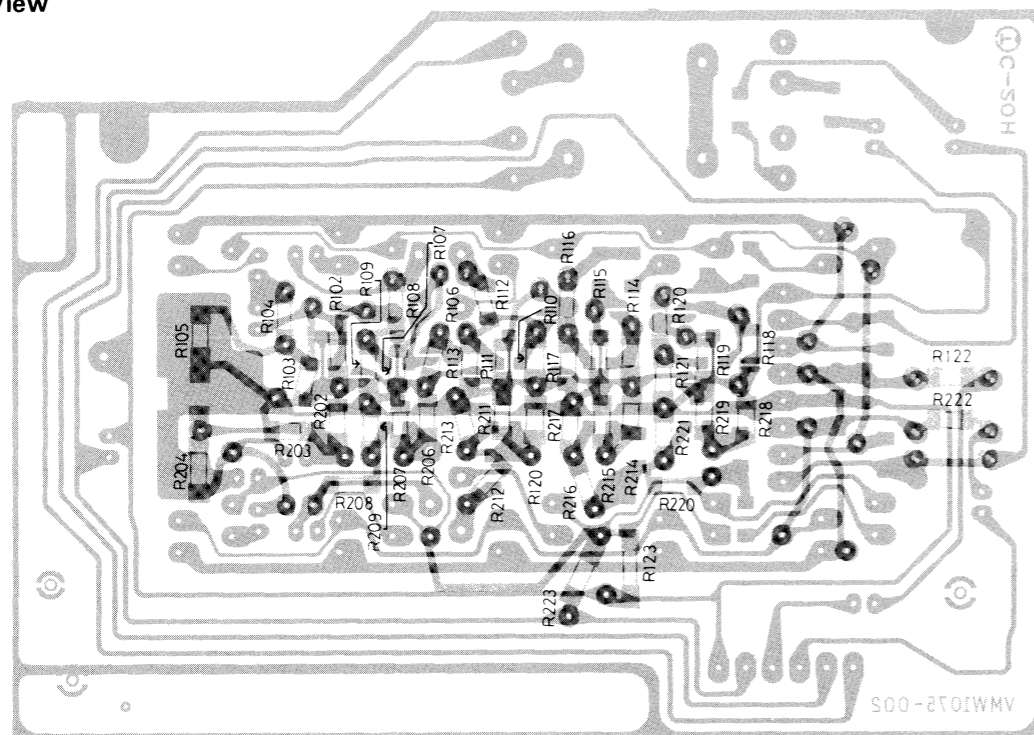


Fig. 32

Printed pattern

SEA P.C. Board Parts List

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	IC301	VMW1075-002	P.W. Board		1
	Q101~105	M5218L	IC		1
	201~205	2SC3052 (E,F)	Transistor		10
	VR101,201	QVZ5305-001	Slide Volume	SLV, RED, PGN	2
	VR301~305	QVZ5101-001	V. Resistor		5
	R101,201	QRS188J-562	M.G. Resistor	5.6 kΩ 1/8 W	2
	C101,201	QCS81HK-151	F.C. Capacitor	150 pF 50 V	2
	C102,202	QEK71HK-105	E. Capacitor	1 μF "	2
	C103,203	" -224	"	0.22 μF "	2
	C104,204	" -334	"	0.33 μF "	2
	C105,205	QFV41HJ-563	T.F. Capacitor	0.056 μF "	2
	C106,206	" -823	"	0.082 μF "	2
	C107,207	" -153	F.C. Capacitor	0.015 μF "	2
	C108,208	QCY81HK-183	"	0.018 μF "	2
	C109,209	" -332	"	0.0033 μF "	2
	C110,210	" -472	"	0.0047 μF "	2
	C111,211	" -821	"	820 pF "	2
	C112,212	QEK71EM-475	E. Capacitor	4.7 μF 25 V	4
	113,213				
	C130	QET41AR-227	"	220 μF 10 V	1
	C301	QEK71CM-106	"	10 μF 16 V	1
	CN301	QMV7001-006	Connector		1
	D79	VYH3247-001	SEA Holder		1
		SSSP2006Z	Screw		2

DIN P.C. Board

Din P.C. Board Parts List

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

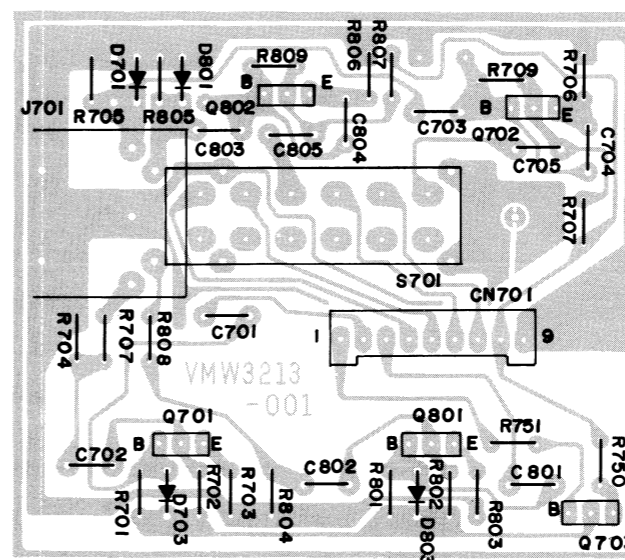


Fig. 33

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	J701	VMW3213-001	P.W. Board		1
	S701	QMC9014-006	Din Jack Ass'y		1
	CN701	QSP4210-061	Push Switch		1
	Q701,801	QMV5005-009	Connector		1
	702,802	2SC1843(F)	Transistor		4
	Q703	2SA1175(H,F,E)	"		1
	D701,801	MA165	Si. Diode		6
	702,802				
	703,803				
	C701,801	QET41HR-105	E. Capacitor		8
	702,802				
	703,803				
	705,805				
	C704,804	QCS11HJ-471	C. Capacitor		2
	R701,802	QRD144J-225	C. Resistor		2
	R702,802	" -332	"		2
	R703,803	" -151	"		2
	R704,804	" -224	"		2
	R705,805	" -103	"		2
	R706,806	" -181	"		2
	R707,807	" -392	"		2
	R708,808	" -472	"		2
	R709,809	" -155	"		2
		VYH5552-001	Din Bracket		1
		SDST2605Z	Screw	Din BKT/PWB Ass'y	1

Tuner P.C. Board

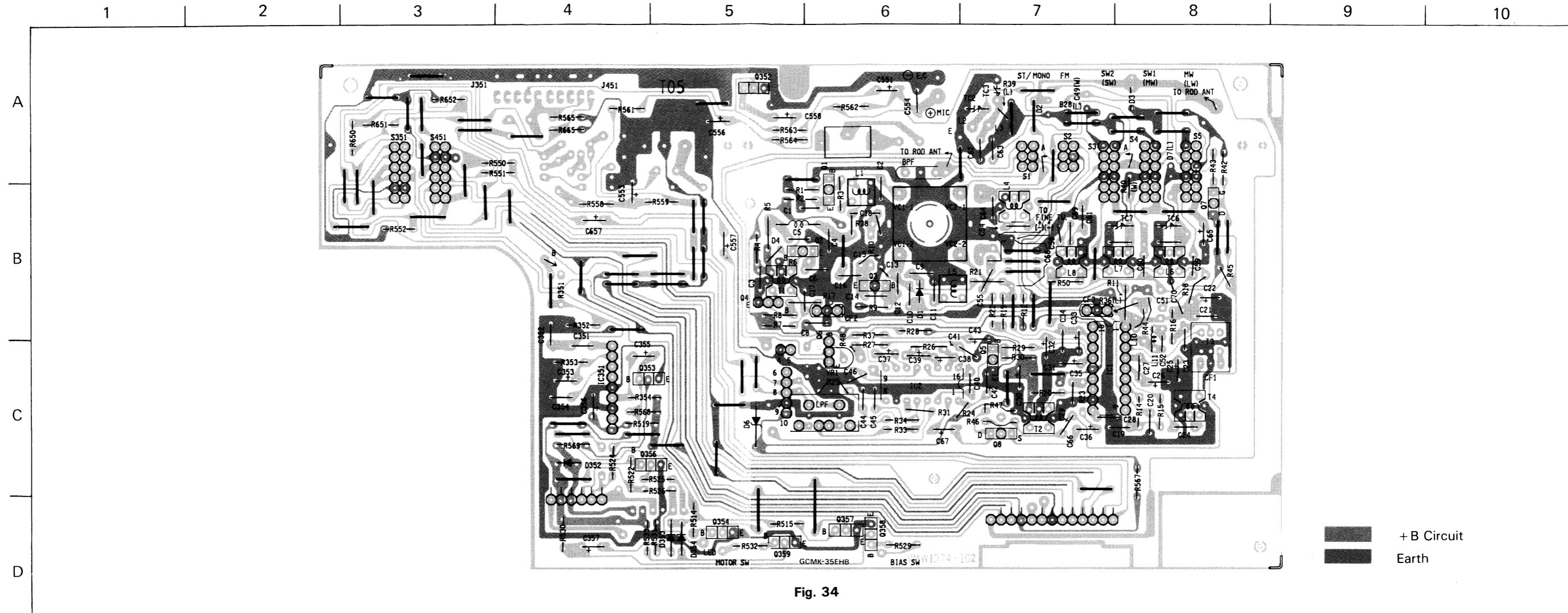


Fig. 34

Tuner P.C. Board Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
		VMW1074-102	Tuner P.C. Board		
	IC1	AN7222N	IC		1
	IC2	AN7410N	IC		1
	Q1,3	2SA1177(E)	Transistor		2
	Q2	2SC930(E)	"		1
	Q4	2SC2063(N)	"		1
	Q5	2SC536(F)	"		1
	Q7	2SK104(H)	"		1
	Q8	2SK246(GR)	"		1
	D1	1S553T	VARI Cap	PC-70L/LB	1
	D2,3,7	MA165	Si. Diode		3
	D5	HZ6A1	Z. Diode		1
	T1,T2	VQT7F12-104M	I.F.T		2
	T3,CF1	VQT7A21-102	"		2
	T4	VQT7A11-203	"		1
	CF2,3	VCF2L3B-301	C. Filter		2
	BPF	VBP4M3B-002	BPF		1
	LPF	VQZ0018-002	LP Filter		2
	L1	VQF1B12-007	RF Coil	for FM	1
	L4,L8	VQR7002-302	"	for SW2	2

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	L5	VQF1B10-001	OSC Coil	for FM	1
	L6	VQL7T19-301	"	for LW	1
	L7	VQM7U01-301	OSC Coil (AM)	for AM	1
	L9	VQC1304-002	Coil	for FM	1
	L10	VQP0012-8R2	Inductor		1
	L11	VQC1304-001	Coil		1
	S1	QST3521-V01	Push Switch	S1~S5	1
	VC1	QAP1224-521V	V. Capacitor	VC1,2,TC1,TC4 TC5,TC8	1
	VR1	QVZ3512-103	V. Resistor		1
	TC2,3,6,7	QAT3001-053	T. Capacitor		4
	R1,2,4~12 14~16,19,20 22,23 25~30 33,34,37,38,42 43,46~50,52 550~552 650~652 561~567,665 352~354,514 515,519,520	QRD161J-	C. Resistor	1/6 W	66

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	R522,524~526 529,531,569 534				
	R21	QRD161J-	C. Resistor	PC-70L/LB	1
	R18,24,39,45,31 530,532,533	QRD144J-	"	1/4 W	8
	R51	"	"	PC-70L/LB	1
	"	QRD143J-391S	"	PC-7OLD	1
	R44	QRD143J-	"	PC-70L/LB	1
	"	QRD144J-101S	"	PC-7OLD	1
	C26,36,37 65~68,71 551,353	QET41HR-	E. Capacitor	50 V	10
	C22,25,30,42 43,355,356 556,558,69	QET41AR-	"	10 V	10
	C31~33,357,70	QET41CR-	"	16 V	5
	C27	QEN41EM-	"	25 V	1
	C38,39,657	QEB41HM-	"	50 V	3
	C557	"	"	PC-70L/LB	1
	"	QET41HR-	"	PC-7OLD	1
	C44,45	QFN41HK-	M. Capacitor	"	2
	C44~C46 351,352	QCY41HK-	C. Capacitor	"	5
	C1,3,6,7 18~21,24,29 34	QCF11HP-	"	"	11
	C2,4,5,17,35,51 52,54~56,62 64,554,72	QCS11HJ-	"	"	14
	C8,23,28,40 354	QCC11EM-	"	25 V	5
	C9	"	"	PC-70L/LB	1
	C41,59~61	QFP42AJ-	"	100 V	4
	C12,13	QCT05UJ-	"	"	2
	C10	"	"	PC-70L/LB	1
	C11,14,15,16	QCT05CH-	"	"	4
	C57	QCT05WK-	"	"	1
	C58	QCT05ZL-	"	"	1
	C63	QCT26YL-	"	"	1
	VC3	QAT5001-004	M.V. Capacitor	"	1
	L3	VQB012B-315	BAR. ANT	"	1
	S351,451	QST3101-V04	Push Switch	"	2
	J351,451	QMS3501-019	Mic Jack	"	2
	Q352,354,356 357	2SC2785(H.F.E.)	Transistor	"	4
	Q353	2SD1020(H.F.E.)	"	"	1
	IC351	LA2000S	IC	"	1
	D352	11E1-TB2	Si. Diode	"	1
	CM1	VMME62N-030	E.C. Mic	"	1
	CN101	QMV7001-013	"	"	1
	Q358,359	2SC1684(R,S)	Transistor	"	2
	D353,354	MA165	Si. Diode	"	2
		SBSF3010Z	Screw	"	2

Phono P.C. Board Parts

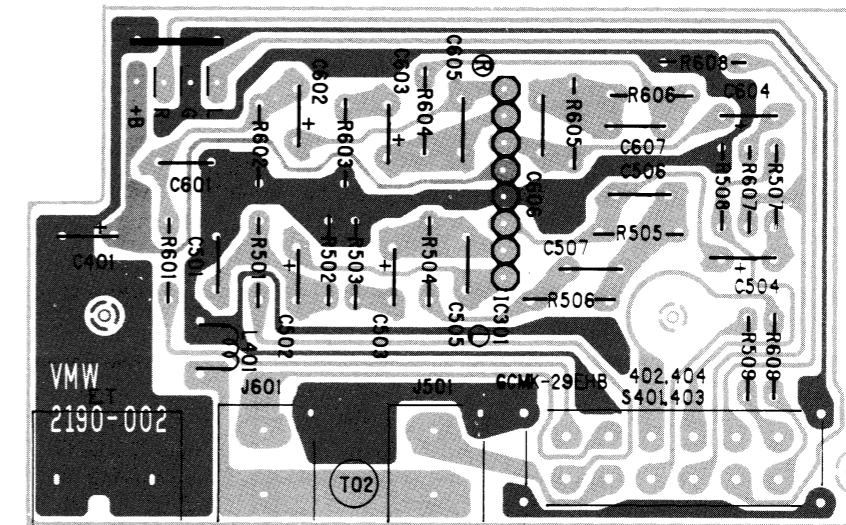


Fig. 35

■ + B Circuit
■ Earth

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Phono P.C. Board Parts List

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
⚠		VMW2190-002	P.W. Board		1
	J501	VMC0002-001	Jack Ass'y		1
	J601	" -002	"		1
	ET	VMZ0001-001	Earth Terminal		1
	S301	QSS4201-071	Slide SW		1
	IC301	BA328	IC		1
	R501,601	QRD161J-182	C. Resistor	1.8 kΩ 1/6 W	2
	R502,602	" -473	"	47 kΩ	2
	R503,603	" -331	"	330 Ω	2
	R504,604	" -102	"	1 kΩ	2
	R505,605,507 607	" -103	"	10 kΩ	4
	R506,606	" -124	"	120 kΩ	2
	R508,608	" -223	"	22 kΩ	2
	R509,609	" -153	"	15 kΩ	2
	C501,601	QCS11HJ-471	C. Capacitor	470 pF 50 V	2
	C502,602,504 604	QET41ER-106	E. Capacitor	10 μF 25 V	4
	C503,603	QET41AR-476	"	47 μF 10 V	2
	C505,605	QCY11HK-102	C. Capacitor	0.001 μF 50 V	2
	C506,606	QFN41HJ-822	M. Capacitor	0.0082 μF	2
	C507,607	" -273	"	0.027 μF	2

Power/LED P.C. Board Parts

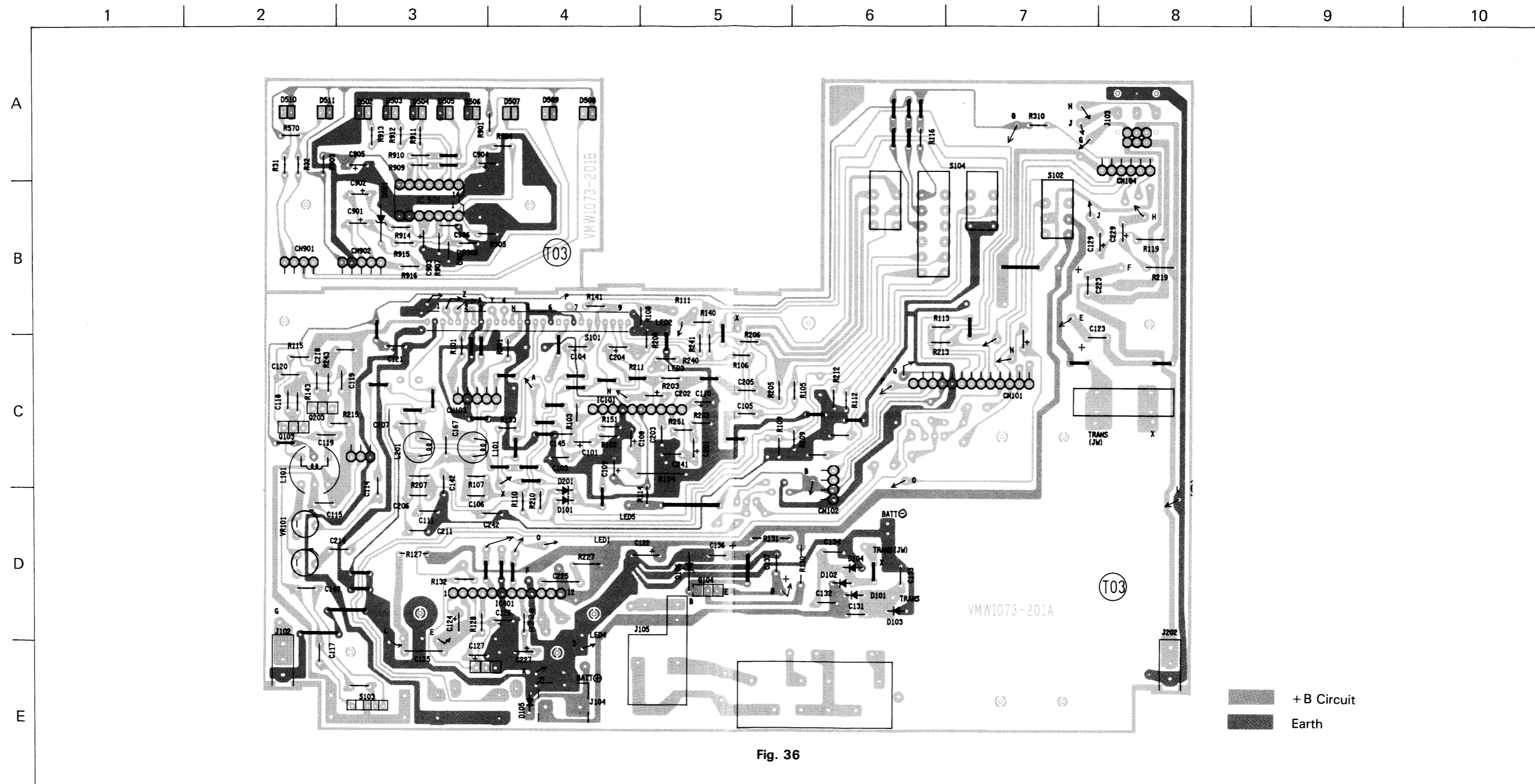


Fig. 36

LED P.C. Board Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	IC501	VMW1073-201B	P.W. Board		1
	D501	LB1416S	IC		1
	D502~507,510	HZ5C	Z. Diode		1
	D508,509,511	SLC-22VR22F	LED	Red	6
	R901,909~913	SLC-22MG22F	LED	Green	3
	R901,909~913	QRD161J-151	C. Resistor	150 Ω 1/6 W	6
	R31,R916	QRD161J-331	"	330 Ω "	2
	R903	" -101	"	100 Ω "	1
	R904	" -474	"	470 kΩ "	1
	R905~R907	" -822	"	8.2 kΩ "	3

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	R916	QRD161J-473	C. Resistor	47 kΩ 1/6 W	1
	R32	" -561	"	560 Ω "	1
	R914,915	" -222	"	2.2 kΩ "	2
	R570	" -332	"	3.3 kΩ "	1
	C901,902	QET41HR-105	E. Capacitor	1 μF 50 V	2
	C903	QET41ER-106	"	10 μF 25 V	1
	C904	QET41HR-475	"	4.7 μF 50 V	1
	C905	QET41AR-336	"	33 μF 10 V	1
	C906,907	QCY41HK-682	C. Capacitor	0.0068 μF 50 V	2
	CN901	QMV5004-004	Connector	4 PIN	1
	CN902	QMV5004-005	"	5 PIN	1

Power Amp P.C. Board Parts List

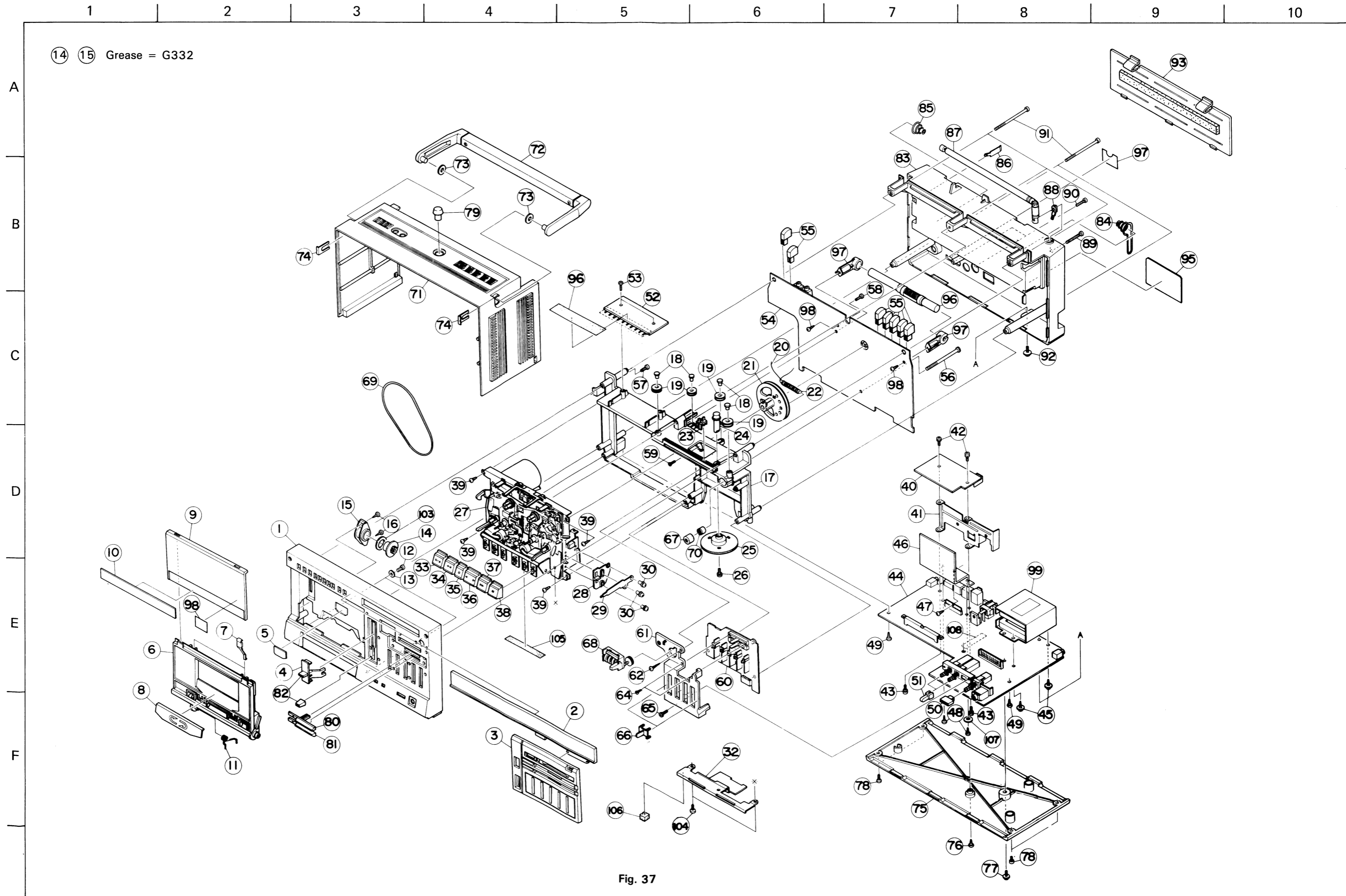
△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	S101	VMW1073-201	P.W. Board		1
	S102	QSS9201-008	Slide Switch		1
	S103	QST7101-V03	Push Switch		1
	S104	QSS1301-101	"		1
	S105	QST7231-V01	Push Switch		1
△		QSS2325-104BS	AC Slide Switch	PC-70LB	1
△	"	" -104	"	PC-70L/LD	1
	IC101	M51544L	IC		1
△	IC401	TA7233P	"		1
	J102,202	QMS3501-016	Jack		2
	J103	QMS3507-001	"		1
	J104	QMA1221-004	DC Jack		1
△	J105	QMC0262-002UBS	AC Socket	PC-70LB	1
△	"	" -002U	"	PC-70L/LD	1
	L101	VQH1009-007	Bias OSC Coil		1
	L102,202	VQP0001-473S	Inductor		2
△	T101	VTP09N2-12GBS	Power Trans.	PC-70LB	1
△	"	VTP90N2-12G	"	PC-70L/LD	1
△	"	QMF51A2-2ROBS	Fuse	PC-70LB 2 A/125 V	1
	"	" -2RO	"	PC-70L/LD "	1
	CN101	A44594-002	Fuse Clip		2
		QMV5010-013	Connector		1
	CN102	QMV5005-004	Connector		1
	CN103	" -005	"		1
	CN104	QMV5010-006	"		1
△	Q103,203	2SD471(LA,KA)	Transistor		2
	Q104	2SD1266(P,Q)	"		1
	VR101,201	QVZ3515-015	V. Resistor		2
	D101,102,103	11E1-F	Si. Diode		5
	104,106				
△	D105	HZ9A1L, A2L	Z. Diode		1
△	D110,210	MA165	Si. Diode		1
		VYH5518-001	Shield		1
	R101,201	QRD161J-100	C. Resistor	10 Ω 1/6 W	2
	R102,202	" -330	"	33 Ω "	2
	R103,203	" -473	"	47 kΩ "	2
	R104	QRD121J-106	"	10 MΩ 1/2 W	1
	R105,205,111	QRD161J-102	"	1 kΩ 1/6 W	4
	211				
	R106,206,112	" -122	"	1.2 kΩ "	4
	212				
	R107,207	" -123	"	12 kΩ "	2
	R108,208,110	" -471	"	470 Ω "	4
	210				
	R109,209	" -153	"	15 kΩ "	2
	R113,213	" -472	"	4.7 kΩ "	2
	R115,215	" -2R2	"	2.2 Ω "	2
	R116	" -101	"	100 Ω "	1
	R119,219	QRD144J-820S	"	82 Ω 1/4 W	2
	R114,140,240	QRD161J-470	"	47 Ω 1/6 W	3
△	R127,227	QRH141J-2R2	Fusi. Resistor	2.2 Ω 1/4 W	2
	R128,228,310	QRD161J-221	C. Resistor	220 Ω 1/6 W	3
	R130	QRH141J-4R7	Fusi. Resistor	4.7 Ω 1/4 W	1
	R131	QRD141J-391S	C. Resistor	390 Ω "	1
	R108	QRD144J-471S	"	PC-70LD 470 Ω	1
	R132	QRD161J-681	"	680 Ω 1/6 W	1

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	R141,241	QRD161J-682	C. Resistor	6.8 kΩ 1/6 W	2
	R143,243	" -273	"	27 kΩ "	2
	R151	QRD144J-151S	"	PC-70L/LB	1
	"	QRD161J-151	"	150 Ω 1/4 W	1
	"	QRD161J-151	"	PC-70LD	1
	R251	QRD144J-151	"	150 Ω 1/6 W	1
	C101,201,121	QET41AR-107	E. Capacitor	" 1/4 W 100 μF 10 V	3
	C102,202,128	QET41HR-105	"	1 μF 50 V	4
	228				
	C103,203	QCY41HK-122	C. Capacitor	0.0012 μF "	2
	C104,204	QET41ER-106	E. Capacitor	10 μF 25 V	2
	C105,205	QFV41HJ-563	T.F. Capacitor	0.056 μF 50 V	2
	C106,206	QFN41HJ-152	M. Capacitor	0.0015 μF "	2
	C107,207	QCS11HJ-121	C. Capacitor	120 pF "	2
	C108,129,229	QET41ER-106	E. Capacitor	10 μF 25 V	3
	C109	" -337	"	330 μF "	1
	C110	" -226	"	22 μF "	1
	C111,211,114	QCS11HJ-221	C. Capacitor	220 pF 50 V	4
	214				
	C115	QFP42AJ-223	Pol Capa	0.022 μF 100 V	1
	C117	QCN81HJ-222	C. Capacitor	PC-70L/LB	1
	"	QCY41HK-392	"	0.0022 μF 50 V	1
	"			PC-70LD	1
	C118,218	" -332	"	0.0039 μF "	2
	C119	QFV41HJ-223	F. Capacitor	0.0033 μF "	1
	C120	QCY41HK-103	C. Capacitor	0.022 μF "	1
	C123,223	QET41ER-108	E. Capacitor	1000 μF 25 V	2
	C124,224	QET41ER-107	"	100 μF "	2
	C125,225,142	QCC11EM-154	C. Capacitor	0.15 μF "	4
	242				
	C126,127,227	QET41AR-476	E. Capacitor	47 μF 10 V	3
	C131,231,133	QCF11HP-223	C. Capacitor	0.022 μF 50 V	3
	C144	QCT41CM-227	E. Capacitor	220 μF 16 V	1
	C135	QET41CR-228	"	2200 μF "	1
	C136	QET41AR-108	"	1000 μF 10 V	1
	C137	QET41CR-477	"	470 μF 16 V	1
	C140	QFN41HJ-222	M. Capacitor	0.0022 μF 50 V	1
	C141,241	QCS11HJ-151	C. Capacitor	150 pF "	2
	C143,243	QCY41HK-821	"	820 pF "	2
	C146	QCS11HJ-330	C. Capacitor	33 pF "	1
		VND4003-044	Fuse Level		1
		VMA4113-001	Insulator		1

Enclosure Assembly and Electrical Parts



Enclosure Assembly and Electrical Parts List

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1 ~ 5	ZCPCR70Y-FS	Front Cabinet Ass'y	(Silver)	1
	"	" -FR	"	(Red)	1
	"	" -FBK	"	(Black)	1
	1	VJC1315-006	Front Cabinet	PC-70L/LB/LD/LS (Silver)	1
	"	" -0012	"	PC-70L/LB/LD/LS (Black)	1
	"	" -011	"	PC-70L/LS (Red)	1
	2	VJK3218-00B	Dial Lens Ass'y	PC-70L/LB	1
	"	" -00F	"	PC-70LD	1
	3	VJD3440-003	SEA Panel		1
	4	VYH5415-001	Function Lever		1
	5	VJD4005-002	Reflection Plate		1
	6	VJT2089-001	Cassette Door		1
	7	VKY4180-001	Cassette Spring		2
	8	VJD4748-001	Door Plate	(Silver)	1
	"	" -002	"	(Red/Black)	1
	9 ~ 10	ZCPCR70Y-CCA	Cassette Lid Ass'y	(Silver/Red/Black)	1
	"	ZCPCR1Y-CCA	"	(Black)	1
	9	VJT3123-001	Cassette Lens		1
	10	VJD4749-002	Lens Plate		1
	11	VKW4441-001	Door Spring		1
	12	SBSF2610Z	Screw		2
	13	Q03091-130	Washer		2
	14	VYH5133-001	Gear		1
	15	VYH5134-001	Damp Holder		1
	16	SBSF2610Z	Screw		2
	17	VYH1134-001	Chassis		1
	18	VYH4034-003	Stub		4
	19	V40409-2	Roller		4
	20	VHR2ZK9-04AT	Dial Cord	L = 695 mm	1
	21	VYH5416-001	Drum		1
	22	50153-3	Spring		1
	23	VJN4083-001	Pointer		1
	24	VYH5417-001	Tuning Shaft		1
	25	VXL4200-001	Tuning Knob		1
	26	DPSP3006Z	Screw		1
	27	_____	PC-70 Mecha Ass'y		1
	28	VYH5418-001	Slider		1
	29	VYH5419-001	Lever		1
	30	VKZ4028-001	Collar Screw		3
	32	VKL5552-002	Mecha. Bracket		1
	33	VXP3103-007	Button	Stop	1
	34	" -008	"	Rew	1
	35	" -009	"	Rec	1
	36	" -010	"	Play	1
	37	" -011	"	FF	1
	38	" -012	"	Pause	1
	39	SBSF3012Z	Screw	For Mecha	4
	40	_____	Phone P.W.B. Ass'y		X
	41	VYH5420-002	Bracket		1
	42	SDST3006Z	Screw	For Phone	2
	43	"	"	For Main	2
	44	_____	Power P.W.B. Ass'y		X
	45	DPSP3006Z	Screw		2
	46	VYH5320-002	Heat Sink		1
	47	SBSF2606Z	Screw	For IC	1
	48	SBSF3006Z	"	For H. Sink	2
	49	SBSF3012Z	"	For Main Chassis	2
	50	VXP4110-002	Power Knob		1
	51	VXP4096-001	Push Button		2
	52	_____	LED P.W.B. Ass'y		X
	53	SBSF3008Z	Screw	For LED	2

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	54	_____	Tuner P.W.B. Ass'y		X
	55	VXP4384-001	Push Button	For Band Function	7
	56	SDSF3065N	Screw	For Front -Tuner P.W.B.	1
	57	SBSF3012Z	"	For Chassis -F. Cabinet	1
	58	"	"	For Chassis -Tuner P.W.B.	1
	59	LPSP2606Z	"	For Drum	1
	60	_____	S.E.A. P.W.B. Ass'y		X
	61	VYH3247-001	S.E.A. Holder		1
	62	SBSF3012Z	Screw	For Holder	1
	64	SSSP2006Z	Screw	For Holder -V. Resistor	2
	65	LPSP3008Z	"	For Holder -SW	1
	66	VXS4117-001	SEA Knob	(Silver)	5
	"	" -003	"	(Red/Black)	5
	67	VYH4348-001	Mic Bushion		1
	68	VKC5172-001T	Counter		1
	69	VKB3000-078	Belt		1
	70	_____	E.C. Mic Ass'y		1
	71	VJC1316-006	Top Cabinet	PC-70L/LB (Silver)	1
	"	" -011	"	PC-70LD/LS (Silver)	1
	"	" -016	"	PC-70L/LB (Black)	1
	"	" -017	"	PC-70LD/LS (Black)	1
	"	" -015	"	PC-70L (Red)	1
	"	" -012	"	PC-70LS/LD (Red)	1
	72	VJH4036-00D	Handle Ass'y	(Silver)	1
	"	" -00F	"	(Red)	1
	"	" -00K	"	(Black)	1
	73	Q03093-509	Washer		2
	74	VYH5013-002	Spring		2
	75	VJC2128-001	Bottom Cabinet	PC-70L/LB/LD/LS (Silver)	1
	"	" -002	"	PC-70L/LB/LD/LS (Red)	1
	"	" -007	"	PC-70L/LB/LD/LS (Black)	1
	76	SBSF3018R	Tap Screw		1
	77	DPSP3010R	Screw	For Trans	1
	78	SBSF3012R	"	For Top Cabinet -Bottom	4
	79	VXL4223-001	Knob	For Fine Tuneing	1
	80	VXS4118-001	Slide Knob (L)		1
	81	VXS4119-001	" (R)		1
	82	VXQ4061-001	Lever Cap		2
	83	VJC1317-004	Rear Cabinet	PC-70L/LB (Silver)	1
	"	" -011	"	PC-70LD/LS (Silver)	1
	"	" -006	"	PC-70L (Red)	1
	"	" -007	"	PC-70L/LB (Black)	1
	"	" -013	"	PC-70LD/LS (Black)	1
	"	" -012	"	PC-70LD/LS (Red)	1
	84	VYH4668-001	Batt Spring		1
	85	VYH4669-001	Battery Spring		1
	86	VYH5016-001	Batt Contact		1
	87	VJA3006-00C	Telescopic Antenna		1
	88	VYH5012-002	Terminal Lug	PC-70L/LB	1
	"	" -003	"	PC-70LD	1
	89	SDSP3012R	Screw		1
	90	SDSP3020R	"	For Phone Bracket	2
	91	SDSF3065N	"		5
	92	DPSP3010R	Screw	For Power Trans.	1
	93	ZCPCR70Y-BS	Batt. Cover Ass'y	(Silver)	1
	"	" -BR	"	(Red)	1
	"	" -BBK	"	(Black)	1
	95	VYN7013-010	Name Plate	PC-70LB	1
	"	" -006	"	PC-70L	1
	"	" -013	"	PC-70LD	1

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	95	VYN7013-016	Name Plate	PC-70LS	1
	96	VYSA1R4-069	Spacer	Red Only	1
	97	VJD4793-001	Plate		1
	98	VND4090-005	Caution		1
⚠	99	VTP09N2-12G	Power Trans	PC-70L/LD/LS	1
⚠	"	VTP09N2-12GLB	"	PC-70LB	1
	103	Q03091-206	Washer	for Damper Holder	1
	104	SDST3006Z	Screw	for Mecha Bracket	2
	105	VYSA1R4-030	Spacer	for Rec Lever	1
	106	VYSR108-006	"	for Mecha Bracket	1
	107	Q03095-206	Washer		1
	108	VYSA1R4-030	Spacer	For Wire Band	3

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

Mechanical Component Parts List

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1	VKL1223-00C	Chassis Base Ass'y		1
	2	VKL3448-001	FR Switch Cam		1
	3	VKL3449-001	Motor Switch Cam		1
	4	VKL3450-001	Lock Cam		1
	5	VKL3451-002	MS Cam		1
	6	Q03093-631	Washer		2
	7	VKL5421-002	C.R. Lever (B)		1
	8	VKL5422-001	Direction Lever Ass'y		1
	9	REE1500	E. Ring		1
	10	VSH1130-001	Leaf Switch		1
	11	SPSH2040M	Mini Screw		1
	12	VKW3002-127	Tension Spring	For Lock Cam	1
	13	VKW4413-001	C.R. Lever Spring		1
	14	VKS4600-001	Cassette Guide		2
	15	SPSH2040M	Mini Screw	For Cassette Guide	2
	16	VKS4541-001	Guide Post		1
	17	SPSH2080M	Mini Screw		1
	18	VKS4542-002	Lock Arm		1
	19	VKH3001-056	Flange Collar		1
	20	LPSP2005Z	Screw	For Lock Arm	1
	21	VKW3002-128	Tension Spring	For Lock Arm	1
	22	VKY4300-001	Pack Spring		1
	23	VSH1123-004	Leaf Switch		3
	24	SPSH1755M	Mini Screw		3
	25	VKS3163-001	Auto Safety Lever		1
	26	VKW3008-003	Torsion Spring		1
	27	VKL3452-00G	Button Frame Ass'y		1
	32	SSSK2030M	Mini Screw	For Bracket Frame	2
	33	VKP3000-00D	Pinch Roller Arm Ass'y	For Forward	1
	34	" -00E	"	For Reverse	1
	35	VKW4415-003	Pinch Roller Spring	For Forward	1
	36	VKW4416-003	"	For Reverse	1
	37	VKZ4004-002	Special Washer		2
	38	VKZ3108-001	Slide Base (1)		1
	39	VKL5423-001	" (2)		1
	40	VKW3002-129	Tension Spring	Slide Base	1
	41	VKL3454-00E	Head Mount Base Ass'y		1
	47	VGH0425-514	R/P & E. Head Ass'y		1
	48	VKZ4216-001	Wire Stopper		1
	49	VKZ4223-001	Head Screw		2
	50	SPSH2018M	"		1
	51	VKZ4001-013	Wire Clamp		3
	52	T41615-004	Steel Ball		1
	53	SPSH2025M	Mini Screw		1
	54	VKY4301-001	Head Base Spring		1
	55	SPSH2025M	Mini Screw		3
	56	VKS4544-00E	Direction Trigger Ass'y		1
	57	VKW3008-002	Torsion Spring		1
	58	VKR3109-001	Cam Gear (A)		1
	59	VKR3110-001	" (B)		1
	60	VKS4546-002	C.R. Lever (C)		1
	61	VKS4591-00B	C.R. Trigger Ass'y		1
	62	VKW4409-001	C.R. Trigger Spring		1
	63	VKR3111-002	C.R. Cam Gear		1
	64	VKS4548-001	Play Lever		1

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	65	VKW3002-131	Tension Spring	For Play Lever	1
	66	VKR3112-002	Play Cam Gear		1
	67	VKS4549-004	MS Lever		1
	68	VKZ4004-002	Special Washer		9
△	69	VGP0704-002	DC Solenoid		1
	70	SPSH2080M	Mini Screw		1
	71	VKL3496-001	Rec. Slide Bar		1
	72	VKS4550-001	Rec. Select Lever		1
	74	VKL5512-001	Rec. Lever		1
	75	REE3000	E. Ring		1
	76	VKW3002-140	Tension Spring	Rec. Lever	1
	77	VKF3128-00A	Flywheel Ass'y		1
	78	VKF3127-00A	"		1
	79	Q03093-828	Washer		2
	80	" -522	"	Oil Cut	2
	81	VKS4552-004	Pause Lock Cam		1
	82	VKW3001-122	Comp. Spring		1
	83	VKZ4004-002	Special Washer		1
	84	VKB3001-021	Capstan Belt		1
	85	VKB3000-070	Belt		1
	86	VKL3497-002	F.M. Bracket		1
	87	VKS3171-001	Thrust Plate		1
△	88	MMI-6A2HUB	Motor		1
	89	VKR4384-001	Motor Pulley		1
	90	SPSH2630M	Mini Screw		2
	91	SPSH2025M	"	FM Bracket Direction × 1, Bias × 1	2
	92	VSH1123-005	Leaf Switch		2
	93	VKZ4218-001	Special Screw		2
	95	VKL2195-00A	Reel Disk Bracket Ass'y		1
	96	VKR3113-001	Reel Feather		2
	97	VKH3012-024	Shaft		2
	98	This DWG.	Comp. Spring		2
	99	VKR4331-001	Cont. Pulley		2
	100	VKS4553-001	Auto Lever (1)		2
	101	VKS4554-001	Bushing		2
	102	VKS4555-001	Auto Stop Bar		1
	103	VKR4332-001	Reel Gear (R)		1
	104	VKR4333-001	" (F)		1
	105	VKR4334-001	F/R Gear (2)		2
	106	VKR4335-001	Middle Gear		1
	107	VKR4336-001	Cam Gear		1
	108	VKR4337-003	Main Pulley		1
	109	VKR4338-00C	Main Pulley Ass'y		1
	110	VKR4340-00B	Take-up Gear Ass'y		2
	111	VKZ4004-013	Special Washer		9
	112	VKW3002-134	Tension Spring	Rew. Take-up	1
	113	VKW3002-151	"		2
	114	SPSH2025M	Mini Screw		4
	116	VKS2124-00D	Select Unit Ass'y		1
	117	SPSH2025M	Mini Screw		3
	118	VKW3006-090	Torsion Spring		Rec. Safety
	119	VKS3174-001	Rec. Safety (L)	1	
	120	VKS3175-001	" (R1)	1	
	121	VKS4578-002	" (R2)	1	
	122	VKS3177-001	Head Bar	1	

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	123	VKS4568-001	Center Block		1
	124	VKW3006-087	Torsion Spring		1
	125	" -086	"		1
	126	SPSH2025M	Mini Screw		1
	127	VKL3458-002	U-Rec. Bar		1
	128	VKW3002-133	Tension Spring	U-Rec. Bar	1
	129	VKW4414-001	Torsion Spring	"	1
	130	F00303-34	Spacer		3
	133	VMW3205-002	P.C. Board	Hook-up P.C. Board	1
	134	WBS2000N	T. Lock Washer		1
	135	SDST2005Z	Screw		1
	136	VMW4671-001	P.C. Board	Leaf Switch	1
	137	VKZ4004-002	Special Washer		2
	138	VKW3002-149	Tension Spring	SE Bar	1
	139	VKW4453-002	Rec. Spring		1
	140	VKS3189-001	Brake Lever		1
	141	VKZ4129-001	Brake Rubber		1
	142	VKW3002-142	Tension Spring	Rew.	1
	143	VKW4447-001	"		2
	—	V44743-001	MONOHIRA	For Wire Band	4
	—	T41572-001	IN Ductor		1
	—	QMV5004-006	Connector	For P.C. Board	1
	—	QET41CR-477	E. Capacitor	For Motor Terminal	1

Mechanical Component Parts

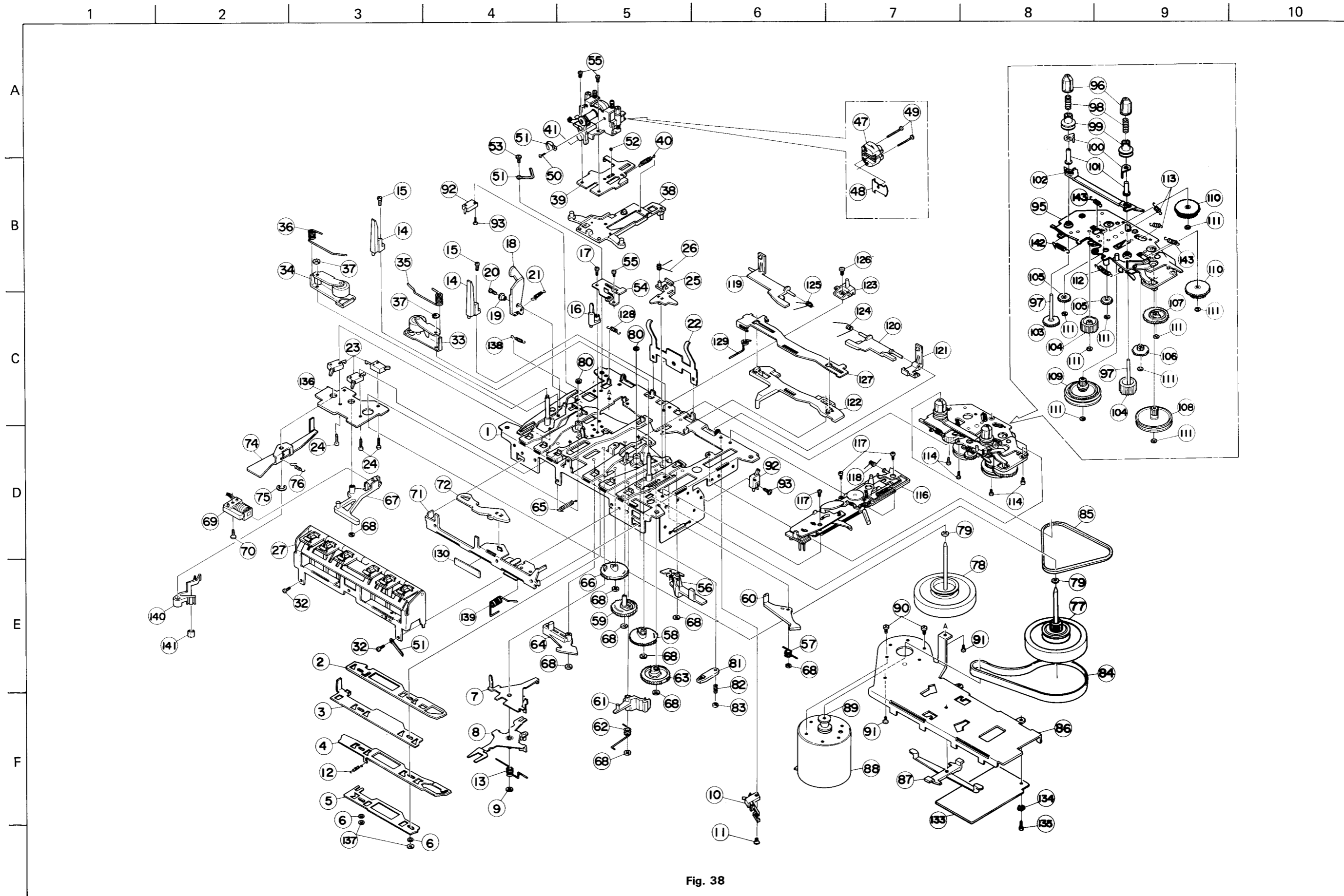


Fig. 38

Exploded View and Parts List for Speaker

Replacement of speaker (Refer to the exploded view)

1. Set the speaker lock lever to release.
2. Speaker to detach from the main unit.
3. Remove 4 screws (16) from rear cabinet.
4. Remove the speaker connection cord.

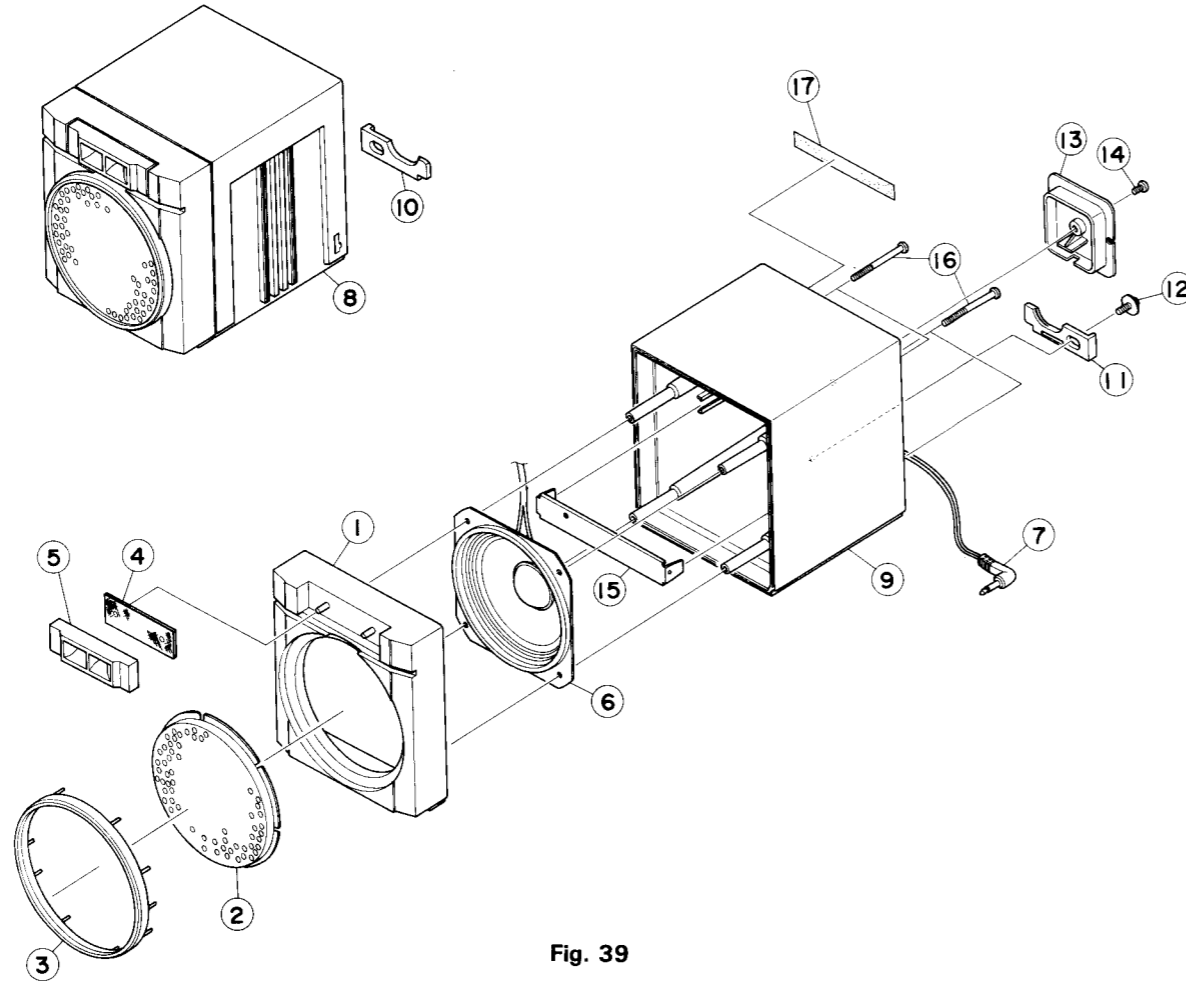


Fig. 39

Speaker System Assembly Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1~5	ZPCB70Y-FS	S.P. Front Cabinet Ass'y	(Silver)	1
	"	" -FR	"	(Red)	1
	1	VJC2129-001	S.P. Front Cabinet	(Silver)	1
	"	" -002	"	(Red)	1
	"	" -004	"	(Black)	1
	2	VJD4744-001	Punching Panel		1
	3	VJD3439-001	S.P. Ring		1
	4	VYTB405-001	Brind		1
	5	VJD4745-001	S.P. Gril		1
	6	EAS10P239SA	Speaker		1
	7	VMP0037-001	S.P. Cord		1
	8	VJC1318-004	S.P. Rear Cabinet	Left Side (Silver)	1
	"	" -005	"	" (Red)	1
	"	" -006	"	" (Black)	1
	9	VJC1319-004	"	Right Side (Silver)	1
	"	" -005	"	" (Red)	1
	"	" -006	"	" (Black)	1
	10	VYH5412-001	Lever	Left Side	1
	11	VYH5413-001	"	Right Side	1
	12	GBSF3012R	Screw		1
	13	VJD4747-001	Cover		1
	14	SBSF3012R	Screw		1
	15	VYH5414-001	Stay		1
	16	SBSF3045N	Screw		4
	17	VYNA424-001	Name Plate		1

Packing

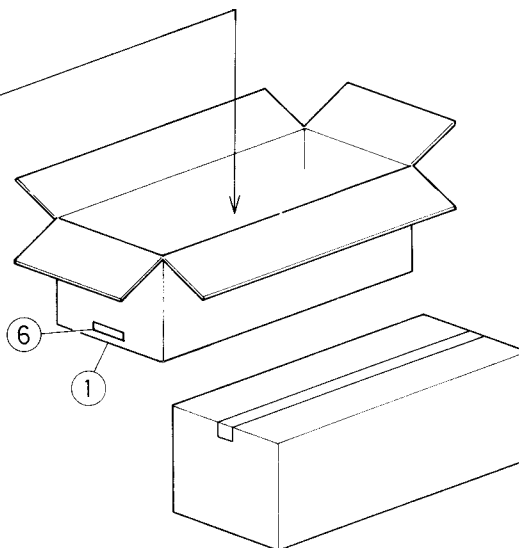
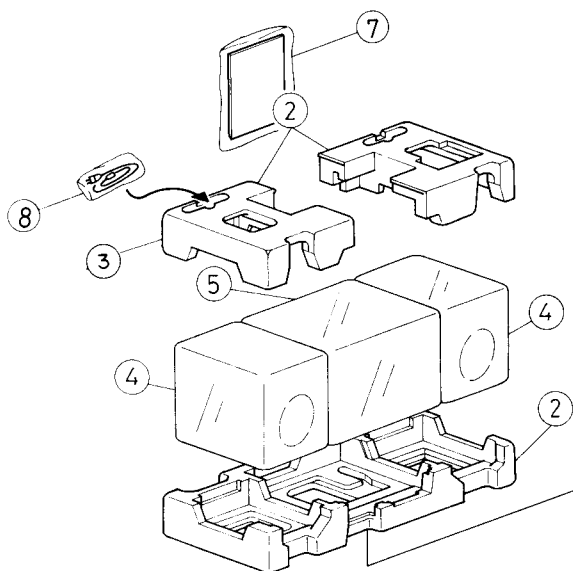


Fig. 40

Positions of controls and switch knobs at remarked packing renewed

- Power ■ OFF
- Tape select Normal
- Reverse mode =
- Direction FOD
- Volume Center
- SEA Knob Center
- Mechanism operation button OFF
- Source ■ Radio
- Tape monitor ■ Tape
- Mode ■ Stereo
- Band ■ AM
- Beat cut 1 position
- Phono/Line select Line
- Counter 000
- Tuning 600 kHz position

Packing Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1	VDP7013-J04	Carton	PC-70L	1
	"	" -J05	"	PC-70LB	1
	"	" -J08	"	PC-70LD	1
	"	" -J10	"	PC-70LS	1
	2	VPH1291-001	Cushion	Under	1
	3	VPH1290-001	"	Upper	1
	4	VPE3004-039	Poly Bag	for Speaker	2
	5	VPE3004-038	"	for Unit	1
	6	VPZ4001-001	Serial Ticket		2
	7	VPE3004-007	Poly Bag	for Inst.	1
	8	QPGA012-01505	"	or Power Cord	1
	—	VND4088-001	Sheet	Black	2
		" -002	"	Red	2

Accessories

△ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

△	Parts No.	Parts Name	Remarks	Q'ty
	VNM0937-303	Instruction Book		1
	VNF0934-001	Feature Tag		1
△	QMP3950-183	Power Cord	PC-70L/LD/LS	1
△	QMP9017-009BS	"	PC-70LB	
	VNC1200-001	Inst Sheet	PC-70LD/LS	1
	BT20054-003A	Caution Sheet	PC-70LD	1
	BT20065	Warranty Card	PC-70LD	1
	BT20066	"	PC-70LB/LD	1
	BT20060	"	PC-70LB	1
	QZL1002-003	Warning Label	PC-70LB	1
	31465-18	Mark	PC-70LB	1

JVC

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